



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

UC-NRLF



\$B 6 713

REPORT
OF THE
Forest Park Reservation Commission
OF
New Jersey

1913

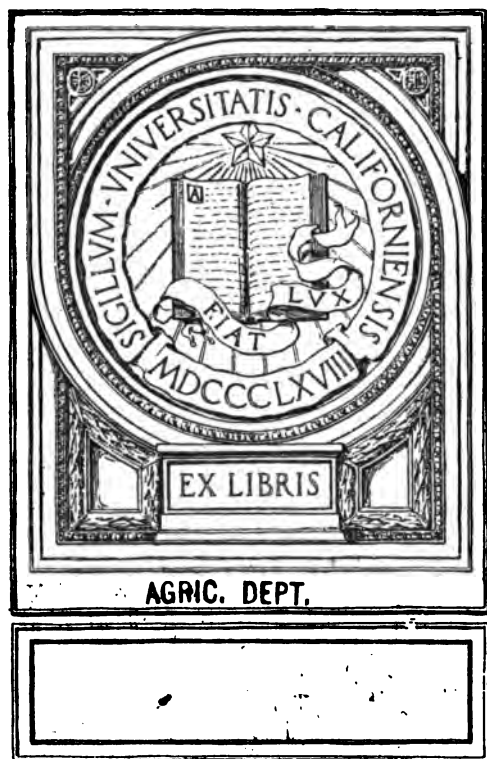




FIG. 1: WHITE OAK LOG ON ITS WAY TO MILL: BURLINGTON COUNTY.



FIG. 2: A PORTABLE SAW MILL: SOMERSET COUNTY.



FIG. 3: LOGGING WHITE CEDAR: A CLEAN CUT IS NECESSARY: OCEAN COUNTY.

NEW JERSEY STILL PRODUCES LUMBER.



REPORTS OF
THE FOREST PARK RESERVATION COMMISSION
OF NEW JERSEY

NINTH
ANNUAL REPORT

For the Year Ending October 31st

1913



UNION HILL, N. J.
DISPATCH PRINTING COMPANY,

1914.

SD 12
N 5
1912/13

The Forest Park Reservation Commission

Hon. LEON R. TAYLOR, ACTING GOVERNOR, *ex-officio President*.
HENRY B. KÜMMEL, STATE GEOLOGIST, TRENTON, *Executive Officer*.
ELMER H. SMITH, Salem.
CHARLES L. PACK, Lakewood.
WILLIAM W. SMALLEY, Bound Brook.

ALFRED GASKILL, Trenton, *State Forester and Secretary*.
JAMES O. HAZARD, Trenton, *Assistant Forester*.
CHARLES P. WILBER, Trenton, *State Firewarden*.
OFFICE, State House, Trenton.

DIVISION FIREWARDENS.

Div. A—WILLIAM LINDSAY, Dover.
Div. B—FREDERIC C. TORREY, Lakehurst.
Div. C—JOSEPH E. ABBOTT, Hammonton.
Div. D—LEONIDAS COYLE, Millville.

AGRIC. DEPT.

Letter of Transmittal

To His Excellency, Leon R. Taylor, Acting Governor of the State of New Jersey and ex-officio President of the State Board of Forest Park Reservation Commissioners:

SIR—I have the honor to submit the annual report of the Forest Commission for the year ending October 31st, 1913, as required by law. The control of forest fires continues to be our greatest problem, though marked progress has been made. The work of the Commission in practical forestry and on behalf of the shade trees apparently meets with public approval. The eighteen pages of illustrations exhibit more effectively than words the scope and importance of our work.

Respectfully yours,

Henry B. Kümmel,
Executive Officer.

Alfred Gaskill,
Secretary.

State House, December 18, 1913.

(3)

338637

Illustrations.

	PAGE.
Fig. 1. White Oak Log on Its Way to Mill	<i>Frontispiece</i>
" 2. A portable Sawmill	"
" 3. Logging White Cedar	"
" 4, and 5. Fire Hazard and No Fire Hazard After Logging	6
" 6, 7, 8 and 9. Four Views of New Jersey Forests Proving That We can Grow Timber	9
" 10 and 11. Practical Forestry—Stand of Young Pine Before and After Thinning	12
" 12 and 13. Forester's Work and Ordinary Loggings Contrasted	16
" 14 and 15. Two Forestry Exhibits	19
" 16 and 17. Restoring Forest to Land That Yields Nothing	22
" 18. Fire Resistant Pitch Pine With Reserve Poster	24
" 19. How Surface Fires Cause Lumber Loss	24
" 20, 21 and 22. A Seven-Year-Old Plantation in Which Forest Con- ditions are Established	27
" 23. A Successful Shade Tree Circular	32
" 24, 25 and 26. Straight Lines in Shade Trees and in Roads May Often be Departed From	35
" 27. Butchered Maple Trees	38
" 28. Shade Trees Abused by Builders	38
" 29 and 30. Tree Wounds Improperly and Properly Treated	40
" 31. Shade Trees Planted and Maintained at Cost of a Public Service Corporation	40
" 32. New Fire Poster	43
" 33 and 34. Fighting a Forest Fire with Dynamite	46
" 35. Map of the State Showing Forests and Where Forest Fire Service is Maintained	49
" 36 and 37. Woodland Roads as Fire Hazards	51
" 38 and 39. Two Kinds of Fire Lookouts	59
" 40. Forest Fire Wagon	59
" 41. A Railroad Fire Line	59

Report of the Forest Commission

The ninth annual report of the Forest Commission is made with strong assurance that a work of positive value is being accomplished. There is no need to prove that New Jersey needs lumber, nor that forest fires are wasteful, nor that conservation of forests is desirable. The Commission has taken all this for granted and has set itself the task of educating the whole citizenship in respect to the aims of forestry and demonstrating its applications.

The Commission feels that its efforts are appreciated, that the economy of forestry is apparent, that the reform of long standing abuses is proven a possibility, that the people are with it, and that there can be no backward step.

It is worth bearing in mind that the powers of the Commission are chiefly constructive and advisory; that its duty is, not to execute an established policy and a fixed routine, but to popularize a new subject and make practical application of its principles. The sole compensation of its members consists in the satisfaction that comes of worth-while service. The policy that it formulates, the measures that it devises, the interest and enthusiasm that it awakens are made effective by the State Forester and State Firewarden whose reports, published herewith, show specifically what is being done. The cardinal points of the Commission's effort are these:

Forest fire control is an absolute condition precedent to the practice of any kind of forestry. The chief effort is, therefore, in this direction.

The practice of forestry by those who own the forests is preferable to state purchase and control.

Development of the forests we have through protection and care is wiser than planting more forests.

State forest reserves should be limited to tracts held for demonstration, for water control and other specific purposes.

Shade trees are vital to every community.

This entire program, except in respect to shade trees, seeks to

develop forests of positive value. Our possibilities are suggested by a comparison with Württemberg. That German state and ours have practically the same area, the same population, similar territory and similar interests. The annual net income from New Jersey's forests is about 50 cents per acre, the annual net income from Württemberg's forests is upwards of \$6 an acre. We can do as well if we will.

FOREST FIRES.

The State Firewarden's report—see p. 43—makes it clear that prevention is the only effective way to control this evil. So long as fire setting agencies persist the best organized fire service that is possible can do no more than put out fires before they become serious. Whenever dry weather and high winds coincide, as they did last spring, a big crop of fires is inevitable. The year's record thus suffers by comparison with that of last year which enjoyed a comparatively wet spring, but it is better than that of any previous year since the service was fully organized. The measure of the season's success, however, is to be found, not in the number of fires reported, but in the list of potential fires that did not get away, and in the ability of the fire service steadily to increase their proportion. In this respect the fact that 54 per cent of all fires known to have started were put out before they had burned as much as five acres affords strong ground for satisfaction.

Loss: See Table II, p. 44. The estimated value of all kinds of property destroyed by forest fires during the year was \$67,205 against a similar loss of \$21,501 in 1912. More than the whole of this increase, however, is due to twenty-seven fires which under extreme conditions of drouth and high wind escaped control and caused a loss of \$47,370. Neighboring states suffered relatively much more.

Causes: See p. 46 and Table IV. A study of causes necessarily precedes any application of remedies. A steady reduction in the proportion of "cause unknown" fires indicates efficiency in a fire service; this year only 30 per cent of all fires were so reported. The average in most states is upwards of fifty per cent,



FIG. 4: A BAD FIRE HAZARD CREATED BY UNREGULATED LOGGING. THE FOREST COMMISSION SHOULD HAVE POWER TO CONTROL THIS.



FIG. 5: IDEAL LOGGING. EVERYTHING OF VALUE UTILIZED AND BRUSH PILED FOR BURNING.

FIRE HAZARD AND NO FIRE HAZARD AFTER LOGGING. BOTH BURLINGTON COUNTY.

and we had as many in earlier years. Fires due to **brush burning** have been reduced to **7 per cent** of the total, largely through vigorous enforcement of the permit law. (There were 5,240 permits issued.) This is the same ratio as obtained in 1912 and is a distinct gain in view of this year's increased hazard. The Commission shares the State Firewarden's belief that this very common source of forest fires is rapidly being reduced to a point which presents little serious difficulty. **Smokers, hunters and similar careless people** are known to be responsible for 18 per cent of the fires for which any cause is assignable, and probably for most of those of unknown origin. Little can be done to lessen these except through expensive patrol and education. Beyond all question, **the railroads** are our principal cause of forest fires. The offending is not wilful, and all roads are not equally culpable, but in the face of the facts that railroads **caused 45 per cent of all fires** this year, that property owners are complaining bitterly, and that neither fire lines nor the efforts at co-operation which have been made have produced any improvement at all comparable with that shown in connection with other hazards, it is clearly the duty of the Commission to provide some relief. See pp. 12, 46.

Railroad Fire-Line Law: The act, of 1909, 2 Comp. Stat. p. 2339, which gave the railroads power to reduce the fire danger along their lines by providing for the construction of wide fire breaks on private property adjacent to the right-of-way, and which has been contested in the courts since April, 1910, was on June 18, 1913, declared **unconstitutional** by the Court of Errors upon the ground that it **appropriated private property without compensation**. Thus this effort to bring about co-operation between the railroads and neighboring forest owners for the prevention of forest fires finally fails, insofar as its compulsory application is concerned. Indirectly it has succeeded in that upwards of three hundred miles of fire lines have been built, mostly through the voluntary action of the railroads and with consent of the owners concerned. These have proven beyond all doubt the value of such lines as an aid to fire control. From several railroads the Commission has assurances that fire lines will be maintained and extended wherever owners will give consent.

Violations of Law: The vigorous pursuit of every individual and corporate violator of the forest fire law is doing more to secure forest property than any other element of the Commission's policy. The oft-heard assertion that no law against firing the forest can be enforced does not apply in New Jersey. The total violations established were 350, of which 39 were technical offenses, chiefly illegal back-firing and burning without permit. Deducting these, though they are among the most important, it is found that over **forty-five per cent of the 678 fires reported were traced to their authors and fixed as violations of law!** Of the 350 established violations the railroads were responsible for 255, or 72 per cent; brush burners for 72, smokers for 8 and miscellaneous agents for 15. The detailed distribution and disposition of this responsibility is shown in Tables V, VI, VIII, IX, X, XI, XII and p. 56. The points that demand emphasis here are, that the authors of forest fires can be and are discovered; that an active fire service is a strong deterrent force in that through the constant watchfulness of its members there is less disposition to take chances with fire, to risk burning without a permit, to do anything that may result in a forest fire; that the greatest responsibility is upon the railroads; and that while enforced penalties are making individuals more careful the same policy has had little effect upon the railroad managers.

The money penalties recovered amounted to \$1,538.67, of which \$1,314.62 was paid to township treasurers and the balance to the State Treasurer.*

Federal Co-operation: See p. 59. The co-operative agreement with the U. S. Forest Service by which \$2,000 a year is allotted to this State from the appropriation made by Congress to execute the "Weeks Law" is still in force. This sum has made possible the maintenance of lookouts and patrolmen in North Jersey at dangerous times, particularly during the hunting season. The organization and its influence have become so effective that for two years no serious fire has burned in the patrolled area.

Fire Patrol: See p. 59. The results gained by the Federal patrol in North Jersey naturally suggest an extension of the plan to other sections, and that is being provided for. As the

* Between the writing of this report and March 1, 1914, additional penalties amounting to \$1,072.51 were recovered from railroads, and \$136.95 from individuals.



FIG. 6: PINE 60 YEARS OLD: OCEAN COUNTY.



FIG. 7: CHESTNUT 80 FEET TALL: GLOUCESTER COUNTY.



FIG. 8: OAK 2 FEET DIAMETER: HUNTERDON COUNTY.



FIG. 9: MIXED HARDWOODS ABOUT 80 YEARS OLD: SOMERSET COUNTY.

THESE VIEWS OF NEW JERSEY FORESTS PROVE THAT WE CAN GROW GOOD TIMBER.

cost is considerable it is intended to establish the service only where the chief beneficiaries will bear a part of the expense. The same principle will extend to the maintenance of lookouts.

PRIVATE FORESTRY.

Unless **those who own the forests** can be **induced to practice forestry** there will be little forestry in New Jersey, because the purchase by the State of any considerable area is out of the question. The Commission, therefore, is striving to interest individuals, corporations and municipalities. As a basis for this it can be shown that there is **no great need to plant forests**, see p. 22; that though our original timber forests were cut long ago we still have abundant "second-growth"—in reality often fourth or fifth growth, to start with—there are two million acres of it. Forestry is now practiced in a more or less intensive way on not far from two hundred thousand acres—ten per cent of the total, and the State foresters are advising a goodly proportion of the owners. Though what is done often includes no more than protection from fire and abuse, that as a beginning will lead naturally to **growing timber crops—which is forestry**. In direct response to the efforts of the Commission, its practical assistance, and its published advice are private woodlands being brought under management. New Jersey stands third amongst the States in density of population; our forests must serve as play grounds as well as producers of lumber. See p. 27.

FOREST RESERVES.

The value of the state **reserves as demonstration areas** is amply shown wherever they have been established. Every piece of practical forestry carried out on one of them has been imitated by nearby owners. It is desirable that small reserves, capable of immediate effective treatment be located in **every part of the State**. Except in this way the Commission does not now advocate increasing the State's holdings.

The aggregate area of all State reserves is 13,720 acres. They have escaped fire entirely this year and are improving in condition and value. See p. 22.

EDUCATION.

In addition to what is done in the forest reserves and through forest owners a **constant effort** is made to reach the people at large. By means of lectures, publications, exhibitions and demonstrations the meaning of forestry and the State's interest in it are taught to the children and their elders. Valuable aid in this work is given by the Department of Public Instruction. See p. 41.

SHADE TREES.

Though this subject can be dismissed with a few words it touches and interests more people intimately than does forestry itself. **Shade Tree Commissions** are organized in **52 communities**, with aggregate resources of \$175,000, and the trees are having more care than ever before. The State foresters are actively aiding this work, giving advice about troubles of all kinds and furnishing the technical knowledge that the local authorities usually lack. There is a growing demand that the shade tree idea be extended to country roads and the Forest Commission is trying to satisfy it through co-operation with the State Road Commissioner. See pp. 27-34.

FARMS AND FARMING—TOWN SITES.

Agricultural opportunities may be looked for in the forested sections. Forestry makes no claim on land fit for farming but welcomes the farmer as a helper. **But beware of Land Schemers** who offer "town lots in the pines" at bargain prices. The land may be there, the deed all right yet the buyer gets little of value for his money. See p. 18.

CO-OPERATION WITH STATE INSTITUTIONS.

The movement to employ state dependents out of doors is strongly supported. Portions of the forest reserves have been offered as colony sites and a proposition made to use convicts to construct fire lines. See p. 25.

WOOD USERS.

The Study of Wood Industries, announced last year, has been delayed but is now in shape to be published during the coming winter. See p. 40.

COST OF FORESTRY.

The net cost of all the work done by, and under the direction of, the Forest Commission was as follows: See also financial statement, pp. 14, 15.

BY THE STATE.

<i>For Administration, Care of Reserves, Education, Etc.</i>	
Appropriation	\$10,500.00
Less income and balance refunded.....	595.45
	<hr/>
	\$ 9,904.55
<i>For the Forest Fire Service.</i>	
Appropriation	\$15,000.00
Less penalties and unexpended balance.....	364.49
	<hr/>
	14,635.51

BY THE TOWNSHIPS.

For Firewardens' salaries and expenses.....	\$ 4,371.77
Less penalties refunded.....	1,314.62
	<hr/>
	3,057.15
Total	<hr/>
	\$27,597.21

LEGISLATION AND APPROPRIATIONS.

All the legislation desired was enacted and almost the full sum of money asked for was appropriated. One new law gives the Commission authority to lease, sell or exchange reserve lands—a power formerly denied; another specifically provides for a State Forester. This simply rectifies a defect in the old law as the chief forester to the Commission has been State Forester by courtesy and usage.

The appropriations already made for 1914 are \$15,000 for forest fires, \$11,500 for forestry, and \$30,000 to purchase lakes. The last is a special provision to enable the Commission to make effective a law of 1907 which authorizes the acquisition and maintenance of fresh water bodies as parts of the forest reserve.

Apart from one appropriation of \$10,000, which lapsed because it was insufficient to pay for any desirable lake, no money has ever before been provided to execute this law. The need of forest patrolmen and of increasing the number of lookouts involves an expenditure that will make it necessary to ask for a small increase in the appropriation for the fire service. An effort will be made to meet all demands for advice and assistance and to care for the state forest reserves without seeking an increase in the appropriation for forestry.

THE FUTURE.

The work of the Commission is thoroughly organized and the way to attained results is open. But the time has come to take several forward steps. The first and most important is to **reduce the fire hazard along the railroads**. Fires started by individuals are becoming rarer, the permit law and the warden service are effective, but railroad locomotives are driven under ever increasing pressure, they discharge sparks in spite of spark arresters, and fires are set in great numbers whenever vegetation on and adjoining the right-of-way is inflammable. The Commission acknowledges the efforts of most of the railroads, not all of them, to prevent fires and to extinguish those that are started; but that is not enough. Another step is to **make our shade tree laws more effective**. A third is to **get more and better public roads in the woodland sections**. They will facilitate fire control and make communication easier, but above all, they will open up parts of the State that are now unknown and undeveloped. **Another assistant forester** to give special attention to shade trees and to woodlots is urgently needed. For his salary and expenses, and for additional help in caring for the forest reserves \$3,000 a year will be required.

OFFICE ROOM.

The work of the Commission is conducted with difficulty in the limited office space provided. The State Forester, Assistant Forester and State Firewarden, with their library and records, occupy one moderate sized room, each has frequent conferences



FIG. 10: THE NATURAL FOREST. Note the great number of small, weak trees.



FIG. 11: THE SAME LOCATION AFTER THINNING. The wood removed yielded \$10 per acre more than the work cost. The remaining trees will now grow better.

PRACTICAL FORESTRY. STAND OF YOUNG PINE BEFORE AND AFTER TREATMENT. BURLINGTON COUNTY.

with outsiders for which it is not possible to have even ordinary quiet; each dictates many letters and prepares reports subject to great annoyance and difficulty. In this same room the Commission must hold its meetings; as many as eight people are sometimes gathered in a space eighteen feet square—no privacy, no opportunity for deliberate discussion! The two stenographers with their files share one room with the clerks of the Geological Survey and the office assistant has a desk in a dark room in the basement.

ORGANIZATION.

The administrative force of the Commission is on a satisfactory and apparently permanent basis. It is organized as follows:

THE FOREST COMMISSION.

Ordinarily represented by its executive officer, (H. B. Kummel.)

STATE FORESTER			
(Alfred Gaskill)			
STATE FIREWARDEN	ASSISTANT FORESTER	6 Forest Reserve Wardens	
(C. P. Wilber)	(J. O. Hazard)		
4 Division Firewardens			
112 Township Firewardens			
157 District Firewardens			
3 Fire Watchers			

Financial Statement, Forest Park Reservation Commission for Fiscal Year, 1913

ADMINISTRATION ACCOUNT.

Appropriation \$ 10,500 00

EXPENDITURES.

Salary and expenses, Foresters and Secretary	\$ 4,976 31
Clerks and office expenses	1,384 92
Expenses, Members of Commission	111 01
Instruments and Books	134 79
Co-operation (Woodlot and Shade Trees)	131 35
Postage, Phone, Express	340 43
Advertising Printing	213 50
Mays Landing Reserve	120 57
Bass River Reserve	415 31
Edward C. Stokes Reserve	1,136 89
Lebanon Reserve	273 58
Mount Laurel Reserve	52 24
Penn Reserve	327 62
Exhibits	471 85
Experiments	175 39
Cranberry Bog	25 03
Miscellaneous	7 25
Unexpended Balance	1 96
	\$ 10,500 00

FOREST FIRE ACCOUNT.

Appropriation \$ 15,000 00

EXPENDITURES.

Salaries and Expenses Firewardens	\$ 8,823 57
Clerk and office expenses	1,296 34
Postage, Phone, Express	156 31
Extinguishing forest fires:	2,892 64
On account of 1911 fires	172 82
On account of 1912 fires	875 23
On account of 1913 fires	1,844 59
Local Firewardens' salaries and special expenses..	1,479 13
Equipment	69 40
Special expenses	77 98
Unexpended balance	204 63
	\$ 15,000 00

Financial Statement—Continued

RECEIPTS BY EXECUTIVE OFFICER.

Balance on hand November 1, 1912	\$ 113 31	
For Products of Reserves	495 36	
For Expenses of Foresters in co-operative work ..	98 13	
From Settlements with Sundry Violators of Forest Fire Law	1,538 67	
Total		\$ 2,245 47
Paid to State Treasurer	\$ 753 35	
Paid to Sundry Township Treasurers	1,314 62	
Balance in hand October 31, 1913	177 50	
Due State Treasurer	9 05	
Due Township Treasurers	168 45	
		\$ 2,245 47

THE FOREST PARK RESERVATION COMMISSION,

HENRY B. KÜMMEL, *Executive Officer*
 ELMER H. SMITH
 CHARLES L. PACK
 WILLIAM W. SMALLEY

Report of the State Forester

ALFRED GASKILL.

The State Forester is the active agent of the Forest Commission in performing all the duties which by law devolve upon the Commission. He exercises a general supervision of the Forest Fire Service, through the State Firewarden, but gives most of his time to aiding and advising forest owners and shade tree interests, to developing the State forest reserves, and to keeping up an active educational campaign on behalf of the trees and forests. Forestry demands a long look ahead and much patience. Full recognition of the importance of the subject, and of the State's interest in it, are apparently still far off.

WHAT WE ARE WORKING FOR.

It has been said that "in this country forestry succeeds everywhere but in the woods." The remark suggests the presence of mature forests and a desire to reform logging practices without due reference to economic conditions.

In New Jersey approximately 2,000,000 acres, or 45 per cent of the total upland, is still wooded. But the forests, especially those in South Jersey, are so degraded that they must be valued in the past and in the future rather than in the present. We have to create through forestry the forests in which more and other forestry may be practiced by and by. It goes without saying that a community having 337 people to the square mile needs to develop its forests to the utmost that there may be shaded playgrounds, pure water and lumber, and that there shall be no waste places.

The means by which this end is to be attained appear perfectly plain. A favorable soil and climate produced forests which were partly harvested long ago and have since been kept in subjection by fire. **We still have all that is necessary to make trees grow**, manifestly the control of forest fires must be our first



FIG. 12: CHESTNUT BLIGHT ENFORCED A HEAVY FELLING: OAK WAS THINNED AT SAME TIME AND EVERYTHING USED: A CLEAN JOB DIRECTED BY A STATE FORESTER: MORRIS COUNTY.



FIG. 13: THE WAY LOGGING USUALLY IS DONE: MUCH WASTE IN STUMPS AND TOPS: MIDDLESEX COUNTY.

FORESTERS' WORK AND ORDINARY LOGGING CONTRASTED

concern. And it is. We distinctly affirm that in New Jersey, or anywhere else, there can be no forestry where serious fires are feared. Forestry, after all, involves an investment in growing trees. If that investment is jeopardized beyond what is normal and reasonable, a practical man will have none of it.

Our chief and constant effort is, therefore, directed towards **fire control**. The very considerable measure of success attained is set forth in the State Firewarden's report. **There are portions of the State in which the fire risk is now inconsiderable**; there management and planting are going on successfully. In others the fire problem still controls.

Next comes the effort to **induce forest owners to practice forestry**. The State owns, and can own, but a small fraction of the total woodland, yet it is possible to make it worth an owner's while to do the right thing. The means to this are, first, assured security from fire and then showing him how and getting him started. This may include improvement thinnings, or logging, planting or the control of pests. See pp. 19, 22, 32, 35.

The third effort is **educational**. The people at large do not yet know what forestry is, how it touches their interests or that the State is prepared to help those who want help. This work is carried on through the schools by means of lectures, exhibits and special publications. A popular lecture can be provided at any time or printed matter supplied.

A fourth line of work is with the **Shade Trees**. More people are immediately interested in them than in forestry: for this reason and because trees are so vitally important in city and town life every effort is made to help solve local problems and to encourage the support of Shade Tree Commissions. See p. 27.

The fifth activity is with the **State forest reserves**. In many states the acquisition of state forests is held of prime importance; in some the interest looms so large that there is little room for anything else. New Jersey believes it wiser to own a small area of State forest which can be fully protected and managed **to demonstrate what forestry will do for any owner** than to withdraw great tracts from private control. Moreover, the cost is prohibitive. Demonstration forests in some parts of the state not now provided are desirable and the effort to acquire such that is still being made is not inconsistent with the general

policy of restricting rather than enlarging the state's possessions. See p. 22.

All these activities are carried on simultaneously and as much time devoted to each branch as circumstances justify.

AGRICULTURE.

And with the work in forestry goes hand in hand an effort to open up portions of the present forest to agriculture. **It is a mistake to assume that great unbroken forest areas are desirable**, as it is to entertain the belief, unfortunately too common, that most of South Jersey is valueless. Large portions, indeed, will yield more from forestry than from farming, yet scattered everywhere through the woodland are soils that should be put to the higher use. In a state with such hunger needs as this **it is quite as important to locate agriculturists** upon every parcel of arable land as it is to advance timber interests; to consider the well-being of those who live adjacent to the forests as well as the advantage of the forests themselves. Field and forest is not a mere phrase, they go together by nature.

LAND SCHEMES.

This interest in farm extension by no means includes approval of the many **development projects** that afflict our territory. "A town lot in the pines" is more apt to be a delusion than a bargain. Legitimate efforts to open up any wild section are commendable, and there are such, but a majority of the new towns have little more than a paper existence and no future.

Most of these schemes violate no law, the victims are voluntary. All that can be done is to sound a warning and urge every intending purchaser to be sure that besides a deed to his lot, usually at from four to twenty times its value, he gets society, water, schools, stores and other necessities.

PROGRESS.

It can be said in a word that forestry has found a permanent place in this state. The citizens believe in it. No small part of the Commission's task has been to correct misapprehension, an-



FIG. 14: PART OF EXHIBIT AT INTERSTATE FAIR, OCTOBER, 1913.



FIG. 15: FORESTRY EXHIBIT AT TRENTON, JANUARY, 1913.

other to set the people's own interest affirmatively before them. Though little more than a beginning has been made the demands upon the foresters for advice and assistance are so many that it is difficult to satisfy all.

EXHIBITS.

This year for the first time the Commission undertook to advertise its activities, emphasize the importance of fire control and inform the public of what forestry would do for them, by arranging attractive exhibits. The first was made in the Trenton Armory in connection with the January meeting of the Agricultural and Horticultural Societies. The second was an outdoor exhibit at the Trenton Interstate Fair in October. Both accomplished much in the direction intended, especially as opportunity was given for all who were interested to discuss their own problems with the attending foresters and to get information of a definite kind. See Figs. 14, 15.

PRIVATE FORESTRY.

It is impossible to go about anywhere in New Jersey without finding evidences of an active, practical application of forestry to private lands. **Owners** in all sections are studying the subject and **working out their problems** in their own ways, sometimes under the advice of the Forest Commission, sometimes entirely alone. Though results in the latter case are not always the best the effort is in the right direction. Naturally, this interest is most strongly expressed in North Jersey where many private estates are maintained. A significant example is that of the Mine Mount Forestry Association composed of a group of property owners in Somerset and Morris counties whose desire is to handle their woodlands in a practical way. Under the advice of the State Forester the **Association has employed a forester** who is actively directing fellings, thinnings, planting, and various other phases of forest work. In South Jersey can be seen numerous examples of applied forestry—thinnings inspired by similar work done on the State reserves, or more directly under the advice of State foresters, logging that aims at

a future crop, and commercial plantations. Here, however, the continuance of the fire hazard is a serious handicap and owners cannot be expected to invest largely where the risk is great. All parts of the State still afford ample room for improvement in this line. See Figs. 10, 11, 12, 16, 17.

CHRISTMAS TREES.

The embargo laid and maintained by the U. S. Department of Agriculture upon the shipment of Christmas greens from the territory infested by the gypsy moth and the brown tail moth (portions of New England) has created **an unusual demand for the home product**. In itself this is good, although it must be admitted that our pines and cedars are not very satisfactory substitutes for the balsams and spruces of the north. But the situation has its evil side in that our forests near the large cities are being raided. In portions of Camden, Gloucester and Burlington counties this became such an abuse that the Forest Commission was besought to support restrictive legislation. It was easy to show that there is no need for legislation, that existing statutes are ample to meet the situation, provided the forest owners themselves do their part. It was thus arranged through an agreement with the Senator from Gloucester County, who is also Master of the State Grange, to distribute through the granges a circular letter informing farmers of their rights, their privileges and their opportunities. See opposite page.

FOREST PARK RESERVATION COMMISSION OF NEW JERSEY

CUTTING TREES ON LAND NOT ONE'S OWN IS UNLAWFUL.

Numerous complaints have been made to the State Forester that much destruction is wrought in New Jersey woodlands by outsiders who seek Christmas trees and Christmas greens.

FARMERS CAN MARKET EVERGREENS.

The use of evergreen trees and shrubs at Christmas time is commendable; the practice of stealing the material is wrong. The best that can be said for it is that most property owners have considered young trees of so little value that anyone who chose might cut them. There is not the slightest reason why the farmers of New Jersey should not themselves supply the demand for this material, either by growing suitable trees on their poorest lands, or by utilizing in this way some of the smaller wild trees whose timely removal from their woodlands would benefit those that remain. This is practical forestry.

DON'T EXPECT STRANGERS TO VALUE YOUR WOODLAND IF YOU DON'T SHOW THAT YOU VALUE IT YOURSELF

The best way to stop the trespass complained of is to keep each piece of woodland as though it were valued; that is, keep out fires, encourage the young growth and fell intelligently when need arises. No one need suffer from trespassers who will take the trouble to assert his rights. The law of the State, emphatic and long standing, is as follows

"AN ACT TO PREVENT WILLFUL TRESPASS UPON LANDS

That if any person or persons shall unlawfully enter upon any lands not his own, after having been forbidden so to do by the owner of legal possessor of such lands, he shall forfeit and pay for each offense to the owner of said lands or his or her tenant in possession, the sum of three dollars, to be sued for and recovered, with costs, in an action of debt, before any justice-of-the-peace in this State. (P. L. 1857 p. 16—4 Comp. Stat. p. 5653.)"

"AN ACT TO PREVENT THE UNLAWFUL WASTE AND DESTRUCTION OF TIMBER IN THIS STATE.

That if any person or persons whatsoever, shall, at any time hereafter, cut, fell, work up, carry away, box, bore, or destroy any tree, sapling or pole, standing or lying on any land within this State, to which such person or persons hath not or have not any right and title, without leave first had and obtained of the owner or owners of the said land for that purpose, every such person or persons so offending, shall forfeit and pay for each tree, sapling, or pole so cut, felled, worked up, carried away, boxed, bored, or destroyed as aforesaid, the sum of eight dollars; one-half to the owner or owners of the land, and the other half to the person or persons who shall sue for and prosecute the same to effect, at any time within eighteen months from the cutting, felling, working up, carrying away, boxing, boring, or destroying of any such tree, sapling or pole; and that whenever any person or persons, within this State, shall be sued or prosecuted before any justice-of-the-peace within the same, it shall and may be lawful for such justice-of-the-peace to proceed, whenever the penalty demanded shall not exceed one hundred dollars, notwithstanding any claim the defendant or defendants may offer to make to the land whereon and from which the said tree, sapling, or pole may be cut, felled, worked up, boxed, bored, destroyed, or carried away, and to issue execution for the same, with costs of suit, unless the defendant or defendants shall immediately enter into bond to the plaintiff or plaintiffs, with one or more sufficient sureties or surety, being freeholders, in double the sum so demanded, with a sufficiency for costs of suit, conditioned for his or their appearance at the next court where the same may be cognizable, in an action of trespass, and to pay damages found against him, her or them, with costs of suit, any law, usage, or custom to the contrary notwithstanding. (Rev 1877, p. 1187—4 Comp. Stat. p. 5397) "

POST YOUR LAND

The easiest and best course for property owners who have suffered, or may suffer, on this account, is to post their land with notices somewhat as follows and then vigorously pursue every offender

IT IS FORBIDDEN

To cut, destroy, or remove, any trees, poles, or shrubs from this property under penalty of the law.

JOHN DOE,
Owner

STATE AID TO FOREST OWNERS.

The State Forest Commission is maintained to help woodland owners develop their properties and make them profitable. It cannot prosecute violators of the law, or assume a burden for anyone, but the State Forester and his assistants will gladly advise and instruct anyone regarding the management of his forest

(Approved) HENRY B. KUMMEL,
Executive Officer

ALFRED GASKILL,
Forester

TRENTON, February 1, 1913.

FOREST PLANTING.

The conception that forestry begins and ends with tree planting is wide of the mark. Nine-tenths of the world's forests under management were started and are maintained with little or no planting. This is no argument against planting where that is the only means to get forests, as on the prairies, in the Northern States where fire has wiped out the old forest, in our own territory where forest is desirable on land that has once been cleared. Figs. 16, 17. But **we are** so fortunate as still to be able to **have forest** in almost any place where forest is desirable by **simply protecting** the remnant of the old forest and fostering **the volunteer growth**. Planted forest is better, of course, but it costs so much more than natural forest that under present conditions it usually is wiser to depend upon the latter. Nevertheless, forest trees are planted in North Jersey in considerable number, many of the plantings being made under the direction of the state foresters. With only partial figures of what has been done it is apparent that **close to half a million young trees**, mostly conifers as they should be, **have been set out within a few years**. This looks pretty large though in reality it embraces only about 500 acres.

For the guidance of those who have opportunities to plant, or wish to go into the subject more fully, a bulletin **Forest Planting in New Jersey** has been published and will be mailed free upon request. See also p. 26.

STATE FOREST RESERVES.

The area of the forest reserves remains as follows:

Mays Landing Reserve, Atlantic Co. Map in Report 1907	373 acres
Bass River Reserve, Burlington Co. Map in Report 1907	1,633 acres
Lebanon Reserve, Burlington Co. Map in Report 1907	3,498 acres
Mount Laurel Reserve, Burlington Co. No map published	20 acres
Penn Reserve, Burlington Co. Map in Report 1911	2,764 acres
Edward C. Stokes Reserve, Sussex Co. Map in Report 1907	5,432 acres
Total	13,720 acres



FIG. 16: PLANTATION OF PINE MADE MAY, 1912: MORRIS COUNTY. THE LITTLE TREES ARE SEEN BEST ON TOP OF HILL AND AT LEFT.



FIG. 17: PLANTATION OF PITCH PINE MADE APRIL, 1913: ATLANTIC COUNTY. RESTORING FOREST TO LAND THAT YIELDS NOTHING.

As these properties cost but \$45,277, or an average of \$3.30 per acre, they can scarcely fail to increase in value. The aim of the Commission is to redeem them from their low estate, first by keeping out fire, and second by such thinnings, fellings and plantings as are practicable. They are already valuable as examples of what fire protection will do; in time each will yield a revenue that should represent an annual interest on the investment.

NO EFFORT TO OWN LARGE AREAS.

As is indicated at page 9, the Forest Commission deems it **wiser** to devote its efforts to **uplifting the woodlands** of the state **without regard to ownership** than to strive to increase the state's possessions. This is not at all in harmony with the policies or the desires of most states, but since little land can be acquired except by purchase, and since the removal of any large area from the tax list is of at least questionable wisdom, New Jersey is satisfied to provide demonstration forests and forego larger possessions. **We do need more demonstration forests**—small tracts in the agricultural sections which can be so managed as to afford object lessons to individual owners. Mount Laurel (see p. 24) is of this class. Nor does the argument against the acquisition of reserves in general preclude the purchase of property from time to time which may have a peculiar value. The Commission now has under consideration the acquisition of a piece of land which will simplify the boundaries of Stokes Reserve and of another adjoining Bass River Reserve.

WHARTON TRACT.

The project of the state Water Supply Commission to acquire what is known as the Wharton Tract is moving forward. If this great area shall finally come into the control of the state we shall have a **large forest reserve** as well as a unique source of potable water. The Forest Commission is interested in the plan and is pledged to do its part in the development of the woodlands. The tract includes about 100,000 acres, of which not less than 80,000 acres are forested.

FIRE.

This year for the first time no fire has touched any of the **state reserves**. Mays Landing, Bass River and Mount Laurel have been kept free ever since they came into the possession of the state. Penn also has escaped except for a burn of about 100 acres in 1912. Stokes has suffered two or three small fires, but in the main has also been immune. That Lebanon, which heretofore has borne the brunt of the burnings, has escaped for two successive years is a source of great relief. This general immunity is due in some measure to good fortune, as the spring was very dry, but chiefly to the changed public attitude, to the constant watchfulness of the wardens and to the system of fire-lines which is maintained. See Fig. 37. Telephone connection has now been established with all the reserves except Stokes—a provision that adds much to their security. Fires in the future are not impossible; they are unquestionably less probable than on lands similarly situated which are not cared for.

IMPROVEMENT.

On all the reserves the **improvement** in the forest due to **immunity from fire** is noticeable. Pine trees which a few years ago were little more than knee high now stand above the head of a man. The vigorous growth, and in many cases the density of the stand, indicate the **value** of these low grade soils **for timber production**. Those portions of the reserves which have been thinned or otherwise treated are responding to the work of the ax in the way expected.

MOUNT LAUREL.

This little reserve deserves especial notice because it is serving so well the purpose of its acquisition, namely, the **maintenance of the forest and the coincident utilization of a large proportion of the trees**. See Figs. 5, 10, 11. The people of the neighborhood who secured the transfer of the property to the Forest Commission because they feared that the Mount was to be denuded are pleased with the **improvement** in the condition of



FIG. 18: FIRE-RESISTANT PITCH PINE WITH RESERVE POSTER.



FIG. 19: SURFACE FIRES CAUSE MUCH LUMBER LOSS BY INJURING TREES LIKE THIS.

the property, while as before reported, **the lumber and wood taken out yielded a net profit of \$15 an acre.** The bulletin "An Example of Woodlot Forestry," which describes this piece of work in detail, is still available.

PRODUCTS.

It would not be difficult to derive a considerable income from any of the reserves if all the timber on them were to be cut. It is deemed **expedient, however, to reserve everything** that is now there, except such as can be removed in thinnings, until the trees shall be more mature and **until a sufficient reproduction is assured.** Nothing, of course, can be expected for a number of years from the greater part of the areas as all have been repeatedly cut and burned. On the other hand, there are less than 100 acres of open ground in the whole 13,720 acres and every assurance that natural forests will come with time. The receipts for the year were \$495.36, a sum quite insignificant except that it indicates the Commission's purpose to put the properties on a paying basis as soon as possible.

TRESPASS.

All unlawful use of the reserves has practically ceased. Absolute freedom in respect to berry picking and hunting (subject to law) is allowed and sometimes dead wood is given away. Timber, moss and cranberries are, however, considered as property to which the state has an owner's right. One insignificant infraction of this right on Stokes reserve was the only instance discovered during the year.

USE OF RESERVES BY STATE DEPENDENTS.

The State Forester has taken part in several conferences looking to the establishment of colonies or camps from the state charitable and correctional institutions. Contrary to a rather wide-spread belief there is **no great opportunity** for the employment of labor in **forest planting** (see p. 22) and comparatively little in other lines of forestry. There are, however,

areas within the reserves where colonies can be advantageously located, **where farming can be carried on and where some winter work in forestry can be provided.** Furthermore, there is great need, off the reserves as well as on them, for the **cleaning of forest roads so that they shall be effective fire lines.** This in particular offers an opportunity for the employment of a limited number of convicts. It is expected that some of these projects will crystallize during the coming year.

SURVEYS.

A survey of Stokes reserve has been practically completed and provision made for marking each corner permanently. In so rough a territory, and with many doubtful points in the old survey, this has been a task of some difficulty. Considerable work of this kind remains to be done on other reserves, several points in the original surveys having been found faulty.

SHELTER CABINS.

To the cabins erected last year on Lebanon and Penn reserves a larger one, built of logs, has been added this year on Stokes reserve. This will serve as headquarters for the warden and shelter to any who may be working on or visiting the reserve. Its cost, including furniture, was about \$400.

FOREST PLANTATIONS.

In the spring a number of experimental plantations were made on Mays Landing, Bass River and Lebanon reserves. **These were** located on old fields and **designed to give some exact information about** the availability of **various conifers,** chiefly pines, for planting on the poorer soils of South Jersey. No results can be expected for several years.

It is possible to record, however, and with some satisfaction, that the **plantations made in 1907** on the Conger tract at New Brunswick **are in several instances developing true forest forms.** The evergreens there planted have not succeeded well, proving, as was expected, that the heavy soil of that section is not



FIG. 20: BLACK LOCUST AND RED OAK 6 FT. x 6 FT. IN ALTERNATE ROWS.
LOCUST 25 FT. HIGH: OAK 13 FT. HIGH.



FIG. 21: STRAIGHT STEMMED LOCUST:
IN TWO YEARS SOME WILL BE FIT
FOR POSTS.



FIG. 22: OAK AND ASH, PLANTED 6 FT.
x 6 FT., NOW AVERAGE
12 FT. HIGH.

A SEVEN-YEAR-OLD PLANTATION (SEEDLINGS 2 YEARS OLD) IN WHICH FOREST
CONDITIONS ARE ESTABLISHED: MIDDLESEX COUNTY.

adapted to coniferous trees. Here we have learned through failure what not to do. In contrast with this is the success of the deciduous plantations. Red oak, European white oak, ash and beech, all set out when less than a foot high, now range up to 12 feet and are in good form. Beech naturally is more backward than any of the others. Locust of the same age, planted 6 feet by 6 feet, has an average height of about 20 feet. A limited number of fence posts can in all probability be cut after two years. It is notable that **comparatively little damage** has been done by the locust borer and that **mixed plantations of red oak and locust are in better form than the pure plantations of either species.** See Figs. 20, 21, 22. **These stands are now in a condition to afford object lessons** of several kinds. The pure locust stands are fully closed and a characteristic forest litter, with almost a complete absence of undergrowth, is observed. In mixed stands the development of this typical condition is in progress.

SHADE TREES.

It has been necessary to give more attention than ever before to shade tree interests. **Appreciation of shade tree values is growing everywhere** and the Forest Commission is called upon to help individuals and communities. There is no question that the shade trees all over the state are in better condition than they ever have been, nor that there are more of them by many thousands.

PARKS.

The foresters of the Forest Commission have also been called into consultation in a number of instances by those having charge of **local parks.** Assistance of this kind is given as readily as in the case of shade trees. Necessarily, landscape questions are not considered, at least in an authoritative way, but **advice is offered regarding tree diseases, insect enemies, planting, fertilizing, etc.**

In this connection it may be reaffirmed that **most private woodlands are in effect public parks.** Few owners object to a

reasonable use of their property; barriers are rarely raised until fires, hackings and other abuses become intolerable. The most highly organized forests of Europe are great playgrounds as well as producers of lumber. Ours should be, and can be, the same.

SHADE TREE COMMISSIONS.

The number of these organizations is increasing as the people learn of the effective work that such bodies can do. According to the best information obtainable **there are now 52 shade tree commissions**, or equivalent organizations, in as many communities, organized under the law of 1893 and its supplements. These are enumerated in the accompanying summary: Table I. It will be observed that five have been created within the year. The appropriations, though aggregating \$175,000, are in most cases deemed insufficient for local needs; indeed, the sums allotted in all but two or three of the larger cities seem almost insignificant. Effective work cannot be expected where money in reasonable amount is withheld.

The value of a commission organized under our State laws is, however, **fully established**. Apart from the tree planting, doctoring, etc., that is provided for it can, and often does, represent the community interest in some controversy. Thus the Secretary of one commission writes:

"We have utilized our authority to save three large elms. The trees in question were about eighteen inches within the curb line as established by the engineers preparatory to paving as a County Road. We induced our local engineer to extend the curb out the necessary distance, which preserves the trees for the present.

"As a growing town we are having a considerable amount of paving and curbing laid at present and we are continually called upon to determine whether trees are to come down or whether street lines are to be deflected to accommodate the trees. So far we have had no trouble with either contractors or engineer, both accept our position as arbitrators."

Fig. 31 shows an improvement made by a Shade Tree Commission at the expense of a local gas company. All this is as it should be.

Unfortunately, the recognized **defects in the laws** have not yet been remedied. One enactment contradicts or involves another until some communities have actually declined to organize commissions because they could not be sure what one's

TABLE I.—SUMMARY OF SHADE TREE COMMISSIONS IN THE STATE, AND THEIR ACTIVITIES.

Community.	Commission Appointed.	Appropriation 1913.	Lines of Work Followed.	Special Needs.	Executive.
Allendale,	1910	\$ 64.62	Trimming, doctoring.	.....	William Dewsnap, Sec.
Asbury Park,	1913	300.00	Trimming, planting.	Trees that will thrive near the sea.	Hugh S. Kinnmouth, Pres.
Atlantic City,	1913	2,000.00	Not yet active.	Money to care for trees.	Charles F. Wahl, Chm.
Bayonne, (1) .....	.....	.....	.....	.....	Walter H. Gantz, Pres. Park Com.
Belleville,	1912	1,850.00	Trimming, planting.	Co-operation of public.	D. S. Tillon, Sec.
Beverly, (2)	1912	150.00	Trimming.	More trees.	J. Fletcher Street, Sec.
Bloomfield, (2) ...	1909	1,700.00	Trimming, planting, spraying.	More money.	John A. Rasbach, Sec.
Bogota,	1911	215.00	Planting, spraying, trimming	Larger appropriation.	E. A. Gibbons, Sec.
Bound Brook, (2) ..	1911	None.	Spraying, etc., education.	.....	J. G. Fisher, Sec.
Caldwell,	1912	350.00	Planting, spraying.	More trees, better care.	John Espey, Mayor.
Carlstadt,	1912	None.	Not yet active.	.....	.....
Chatham,	1909	164.81	Planting, spraying.	.....	H. DeB. Page, Sec.
Dover,	1911	1,000.00 (3)	Spraying and park work.	More money.	P. C. Buck, Pres.
East Orange,	1904	6,500.00	Planting and general care.	More flexible law.	E. H. Bennett, Arborist.
East Rutherford, ..	1906	228.15	Planting, trimming, etc.	More money.	F. J. Schoonmaker, Pres.
Elizabeth,	(4)	4,900.00 (5)	.....	.....	.....
Englewood,	(4)	.....	Spraying, trimming, etc.	Provision for planting, etc.	.....
Glen Ridge,	1911	1,500.00 (5)	Planting, trimming, park work.	.....	Martin J. Baldwin, Sec.
Hackensack,	(7)	3,500.00 (5)	Spraying, pruning, general care.	.....	D. G. Jeffers, Commissioner.
Haddonfield,	1911 (5)	400.00	Trimming, planting.	Authority to remove useless trees.	Allen Clymer, Sec.
Hasbrouck Heights, ..	1911	200.00	Trimming, planting, general care.	Guidance to work right.	John Blyth, Sec.
Haworth,	1910	79.00	Trimming, planting, care.	.....	H. B. Van Dusen, Pres.
Irvington,	1911	1,350.00	Trimming, planting, removal.	Larger working fund.	Geo. Jennings, Sec.

TABLE I.—SUMMARY OF SHADE TREE COMMISSIONS IN THE STATE, AND THEIR ACTIVITIES—Continued.

Community.	Commission Appointed.	Appropriation 1913.	Lines of Work Followed.	Special Needs.	Executive.
Jersey City,	1908 (6)	53,430.00	Planting, maintenance, park work.	More parks and play grounds, more attention to old trees.	A. Harry Moore, Director.
Kearny,	1909	2,250.00	Planting, pruning, spraying.	More money.	G. W. McClintick, Sec.
Lakewood,	1910	100.00	Planting, pruning, spraying.		A. D. Davis, Sec.
Maywood,	1911	100.00	Trimming, planting.		Ernst Bilhuber, Chm.
Metuchen,	1908, 1913	.....	Recently re-organized, not yet active.		Geo. W. Litterst, Pres.
Montclair,	1909	7,560.00 (5)	Spraying, planting, general care.		J. A. Anderson, Sec.
Morristown,	1910	1,000.00	Spraying, doctoring.	More money.	Jas. G. Lidgerwood, Sec.
Mount Holly,	1913	.....	Not yet active.		Ross Quicksall, Sec.
Newark,	1904	65,000.00 (5)	Maintenance and improvement.	Enforcement of ordinances, increased appropriations.	Carl Bannwart, Sec.
North Plainfield, ..	1910	250.00	Spraying, etc., education.	Money to employ skilled labor.	Henry Crofut White, Pres.
Nutley,	1912	1,500.00	Spraying, trimming, planting.	Money and experience.	E. L. Broadbent, Sec.
Palmyra,	1911	200.00	Spraying, trimming.	More money.	J. O. Thilow, Chm.
Passaic,	1899	10,350.00 (5)	Maintenance, improvement.	To develop newly acquired parks.	C. S. Deans, Sec.
Paterson,	(1)	1,000.00	Spraying, pruning.		Edward Seery, Pres. Park Board.
Point Pleasant,	1910	None.	Advisory.	Advice about planting.	Clarence H. Murphy, Chm.
Pompton Lakes, ..	1913	1,000.00	Planting.	More trees.	John J. Bartholf, Pres.
Ridgefield,	1910	153.00	Trimming, etc.	Funds to extend work.	W. H. Stillhamer, Sec.
Ridgefield Park, (8)	.....	.....	.....	.....	.....
Ridgewood, (2) ..	1912	600.00 (5)	Spraying, trimming.	Funds.	.....
Riverton, .....	.....	500.00	Pruning, spraying, removals.	Money to do more work.	J. C. De La Cour, Sec.
Roselle Park,	1910	350.00	Spraying, trimming.	More trees, replacements.	G. W. Griffin, Sec.
Rutherford,	1908	1,500.00	Maintenance and improvement.	Maintenance and improvement.	Roger W. Morgan, Sec.

TABLE I.—SUMMARY OF SHADE TREE COMMISSIONS IN THE STATE, AND THEIR ACTIVITIES—Continued.

Community.	Commission Appointed.	Appropriation 1913.	Lines of Work Followed.	Special Needs.	Executive.
Somerville,	1912	.....	Trimming.	.....	Jacob Shurts, Sec.
South Orange,	1903	800.00	Spraying, trimming, etc.	More money.	George K. Badger, Sec.
Summit,	(4)	.....	.....	.....	.....
Verona,	1912	200.00	Spraying, trimming.	Money.	E. N. Bush, Sec.
Westwood,	1912	200.00 (5)	Trimming, planting, spraying.	To prevent use of trees for posters.	E. L. Mouillesseaux, Pres.
Woodbury,	1910	.....	Activities suspended.	.....	E. A. Schutter, Sec.
Wood Ridge,	1910	70.00	Planting, pruning, education.	Education of public.	.....

- (1) Park Commission has charge of shade trees.
- (2) Statement refers to 1912; no report for 1913.
- (3) About \$250 more raised by local effort.
- (4) Attention given to shade trees by a committee of Council.
- (5) Part devoted to park work.
- (6) Now under commission government; work directed by Department of Parks and Public Property.
- (7) No Shade Tree Commission but trees and parks cared for by Improvement Commission (Town Gov't.).
- (8) Shade Tree Commission extinguished by adoption of Commission Government. Commissioner of Roads and Parks will continue work.

powers and limitations might be. There is, of course, no real basis for such an attitude since several shade tree commissions, notably those of Passaic, Newark and East Orange, have been **doing effective work for upwards of 10 years**. The State Forester has had a number of conferences with the Attorney General and with a committee of shade tree commission officials on a revision of the laws. It is hoped that a reasonable bill can be presented for enactment during the coming legislative session.

One of the chief **needs** of shade tree commissions outside of large cities is for **technical advice**. Few have the money to employ a forester, or really enough work for one. The members of the commission themselves have little technical knowledge, yet want to do good work for their community. The state foresters have accordingly stood **ready to advise and assist** in every way whenever called upon to do so. In the spring visits were made to a majority of the communities having shade tree commissions, apparently with good results. One outcome of these visits was the preparation of the circular reproduced as Fig. 23. These were published by the Forest Commission but distributed in the main by the local shade tree commissions. The recommendations made were based chiefly upon the recognized facts that a shade tree commission may be more effective if it has the knowledge and authority of the Forest Commission behind it, and that individuals can be induced to **do right by their trees** if they definitely are told how.

CO-OPERATION.

The central idea in shade tree work is co-operation. Property owners, the municipality and the state itself **each has a part to play**. The state's interest is broad, being chiefly to make its territory attractive and to harmonize and unify the efforts of the several communities. The communities' interest is to increase local values and to strengthen individual aims and efforts. The property owners are commonly divided into two classes: those who resist all outlay and are satisfied with indifferent results, and those who are willing to be taxed moderately for public improvements. The latter must, of course,

Who Looks After Your SHADE TREES?

DO YOUR STREETS LOOK LIKE THIS?

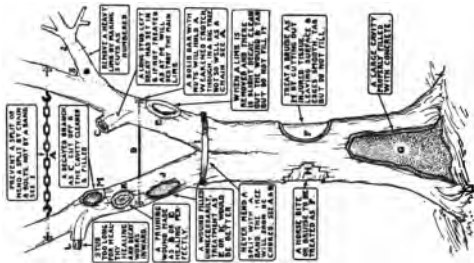


OR LIKE THIS?



1913

It is only a little harder to have **FINE THIRTY SHADE TREES** than to have puny ragged decaying trees. Give them a thought now and then they are not immortal. **STREET TREES** are subject to many ills because they are forced into unnatural situations. Carr' insists this handicap neglect increases it.



THE RIGHT AND WRONG OF THE DOCTRINE

FIG. 23: A SUCCESSFUL SHADE TREE CIRCULAR.

SUPPORT YOUR SHADE TREE COMMISSION

Back up its efforts and see that it has a reasonable appropriation. Goodwill does much, money does more. In return it will help you to care for your own trees.

Being organized under State law, your Shade Tree Commission has

1. Full control over all trees on the highways.
2. Power to trim, doctor, or move any street tree, or to prohibit the trimming, doctoring or removal of any street tree.
3. Power to determine when, where and what kind of a street tree shall be planted, and to prohibit the planting of any street tree.
4. Power to assess the cost of a tree, with guard and all expense necessary, against the property in front of which it is planted. IT CANNOT charge the cost of trimming, spraying or removing against the property.



ALL RIGHTS RESERVED



111 W. 11th

THIS CIRCULAR IS ISSUED BY THE STATE FOREST
COMMISSION, TRENTON AND DISTRIBUTED
BY THE SHADE TREE COMMISSION OF

October 1913

FEED YOUR TREES At least half the ill or shade trees are due to starvation. In the forest trees find nourishment in the litter that accumulates beneath them. Replace in fertilizer the food that your trees lose when you take away the fallen leaves, grass clippings, etc. Each Spring work a fertilizer measure into the soil or apply this mixture—NOT MORE than 1½ pounds to each 100 square feet of soil.

2 parts Nitrate Soda, 1 part Murrate Potash, 3 parts Acid Phosphate, 2 parts Bone Meal.

WATER YOUR TREES Every Summer brings many complaints of falling trees. In most cases the trouble is simply due to lack of water—the trees cannot get from the soil, often covered with a tight, heat-radiating pavement, the water that they need. If the leaves on your tree begin to wither, SOAK the ground once a week: so, linking does little good.

GIVE THE ROOTS AIR An old tree MAY live with the pavement laid close up to its base, a young tree probably won't. Give every tree all the open ground you can, don't plant a tree unless it can have at least 6 square feet of bare earth at its base. 24 square feet is better.

LOOK OUT FOR THE LAWN MOWER, BITING HORSES and everything that breaks the bark of a tree
Through such wounds decay enters

CEMENT FILLING is advisable only when there is a cavity in which water may lie. Do not fill shallow wounds simply clean and tar them.

LEAKY GAS MAINS will injure or kill any nearby tree. If a leak is suspected, report it to the Gas Company and to the Shade Tree Commission AT ONCE. If loss is suffered let the Shade Tree Commission adjust it.

ELECTRIC WIRES rarely do harm to trees, but ringmen do much ; keep them under strict control. No electric company has a right to injure your tree if you have trouble. See the Shade Tree Commission

DON'T EMPLOY TREE BUTCHERS Few healthy trees need pruning, when it is necessary get an experienced man.

govern, and individuals must yield their preferences, and sometimes their personal interests, for the general advantage. Here is where the value of a shade tree commission comes in. Such a body presumably does everything for the public welfare. If it restricts an individual it does so because it is necessary. Shade tree work cannot be carried on satisfactorily where every property owner is allowed to follow his own will. A measure of public control by which symmetry, effectiveness and balance are achieved is absolutely necessary.

ADJUSTING CLAIMS FOR DAMAGES.

One of the most satisfactory lines undertaken by a shade tree commission is the adjustment of claims for damages arising from public improvements, such as road construction, gas or electric installations. In several instances, some of them at the request of service companies, the State Forester has aided in effecting settlements out of court for injuries suffered by individuals. Numerous local shade tree commissions have done even more. In Passaic, East Orange and Newark very considerable payments have been made by the public service corporations to cover the cost of replacing and maintaining shade trees that were lost.

Another important line of effort is to avoid claims for damages by adjustments before injury is suffered. The Forest Commission and several Shade Tree Commissions have been helpful in this way. See p. 28.

ENEMIES.

The dangers that beset shade trees are considered somewhat fully under the subject of tree pests, see p. 35. It is emphasized here, however, that shade trees are unavoidably and necessarily always under strain, that consequently they should have care and attention at all times if they would be kept in good condition. It is almost literally true that most of our shade trees suffer from one ill only, neglect. The remedy is obvious, the means to be employed in any specific case are given in this report or in other publications of the Forest Commission.

DROUTH.

In parts of the state many shade trees have suffered through lack of rain. See p. 43. Taken altogether the losses by the unusual drouths of the past five summers have been serious. Tree owners are reminded that when **Nature fails they must lend a hand**. Cultivation of the surface soil in a dry time often does as much good as water.

NORWAY MAPLES.

There is **danger that the planting of Norway maples** in towns and villages, and to some extent in cities, **will be carried to excess**. The tree is unquestionably a good one; it is especially adapted to narrow streets and unfavorable locations, but too often is planted where a larger, more dignified and more valuable tree is indicated. Red oak, scarlet oak, tulip poplar, white elm, sycamore, linden and sugar maple are all worthy of place on the wider, better cared-for streets. Let norways serve where the others cannot be.

TOO CLOSE PLANTING.

And it is advised that street trees be not planted too close together. A spacing of **25 feet** seems ample when the trees are set out, yet it is **too little even for norway maples** when well grown. In some towns large-growing species like sycamore have been set on twenty feet intervals. In all planting it is highly important to **consider the mature size and form** of a tree. It rarely is advisable to set trees less than forty feet apart.

ROADSIDE TREES.

The proposal to apply the **shade tree laws to country roads** has not yet been brought to a practical demonstration. The State Road Commissioner has found no opportunity to carry into effect the plans published a year ago by which new road construction might be required to include tree planting. It is agreed that **such improvements should not be forced upon any community**, but should come rather in response to a demand



FIG. 24: NEW SIDEWALK LAID WITHOUT DISTURBING FINE OLD TREES.



FIG. 25: OLD OAKS LEFT STANDING IN IMPROVED ROAD.



FIG. 26: BROAD LAWNS AND PARK AREAS GIVE OPPORTUNITY FOR IRREGULAR PLANTING.

STRAIGHT LINES IN SHADE TREES AND IN ROADS MAY OFTEN BE DEPARTED FROM.

for such betterments as shade trees give in conjunction with improved highways.

OILED ROADS.

Some apprehension is abroad that the use of dust-reducing preparations on stone roads will injure nearby trees. Ground for this fear is given in reports from France that some loss has been suffered where a roadbed had been treated with tar. **The evidence is not conclusive**, however, and insofar as our territory is concerned there is no immediate danger. Nevertheless, to forestall any possible trouble from the continued use of these surfacings a series of experiments and tests is to be undertaken with a view to determining the actual effect upon vegetation of road-building methods and road materials.

SHADE TREE BOOK.

The Commission's publication, "The Planting and Care of Shade Trees." See p. 42. apparently meets a real need. It is in constant demand and though still available, it has been found necessary to limit its distribution to citizens of the State.

TREE PESTS.

The open winter and wet early spring favored the development of an unusual number of insect pests. *Cottony maple scale*, *tulip soft scale*, and *elm scale* were prevalent on trees of those species. Some damage was done, and in numerous cases it was necessary to resort to treatment, but there is no reason to believe that natural enemies will not soon restore the normal balance. The State Entomologist and the State Plant Pathologist, either of whom may be addressed at New Brunswick, are active in looking after troubles in their particular lines and the State Forester is working in complete harmony with them. **There is no indication of any dangerous new pest attacking our trees and forests.**

The Federal law under which the Secretary of Agriculture is controlling the importation of, and the interstate traffic in, diseased or insect infested plants is in full operation and is effec-

tive. With the watchfulness maintained by the state officials, and a general co-operation of the nurserymen, it is expected that our territory will be kept free from serious dangers. The situation with respect to the more common tree pests is this:

CHESTNUT BLIGHT.

The disease has been found in Salem County so that the only part of the state now unaffected is Cape May County. Trees in the northern and central sections are dying rapidly and falling under the ax. There are some indications that the blight is slightly less virulent than it was and is progressing less rapidly. There is, however, no proof of this.

It is now thought that the disease came from China where it has been found on native chestnuts which are virtually immune to its attack. The practical bearing of this discovery is that **we may look forward to a time when the chestnuts in this country will become resistant.** It is not likely that this will happen before all of New Jersey's chestnut trees are gone. Tree and forest owners are advised, as heretofore, to **realize on their chestnut timber** as soon as the trees are dead or seriously affected, but not to fell any tree in advance of its death except in situations where economy dictates a clear cutting. In this case the sacrifice of affected individuals will not help those that are still apparently sound. On the other hand, dead trees should not be allowed to stand long lest they furnish breeding places for harmful insects or foster other diseases.

The market for chestnut poles, posts and railroad ties is still good and prices well maintained, but there is a **glut of cordwood** and it appears inevitable that much must be allowed to decay. All efforts to utilize this material in excess quantity have thus far failed, though the forest authorities of New York, Pennsylvania, Connecticut and the U. S. Department of Agriculture have joined with those of New Jersey in attempts to find an outlet.

Valuable shade trees may sometimes be given an increased length of life by careful pruning if their owners feel warranted in incurring the expense. Specific directions for such work will be sent upon request. **Owners** of blighted chestnut are espe-

cially warned not to spend money on so-called cures. No practicable remedy has been discovered. If one shall be found the State authorities will make the fact known promptly. Recently published statements that children have been poisoned by eating nuts from diseased trees are not substantiated, though investigations to determine the fact are under way.

Assurance can be given that **the disease attacks no other species than chestnut**, and that it has no injurious effect upon the wood. A blight similar to that of the chestnut has been observed on chestnut oaks. Chestnut oak is not a chestnut but an oak of the white oak group. The disease proves to be comparatively well known to plant pathologists and is not dangerous. Its occurrence, however, should be promptly reported so that it may be kept under observation. A somewhat **similar disease** has also been found **on norway maples**. All reported cases are under observation. Serious trouble may come but need not be anticipated.

ELM LEAF BEETLE.

The damage done by **this pest** was much less serious than it has been for several years. Most communities continued their sprayings, but in a few, it was omitted with no serious results. The indications are that the insect is coming under control and that before long the expense of spraying may be saved, but for the present shade tree commissions, city authorities and private owners are advised to hold themselves and their spraying equipment in readiness. If the pests shall have been so reduced that there is no serious danger next spring the State Entomologist will advise that spraying is not necessary. In the absence of such advice the usual precautions should be taken, since **proper spraying at the proper time is an infallible remedy**. Where trees are weakened in other ways, as they often are, other measures are indicated. Specific advice will be given upon request.

HICKORY BARK BEETLE.

This insect is doing more and more damage. In some sections most of the hickory trees are gone. Nevertheless, all fear

that the hickories are doomed like the chestnuts may be set at rest. In this case we have to deal with an insect instead of a fungous disease, a less serious matter. Moreover, the larvæ of the beetle, which do most of the damage, work chiefly in weakened trees, generally avoiding those that are well nourished and healthy. **Attacks** on the twigs by which the foliage is made to wilt and fall off **can be controlled** in a measure by pruning, and moderate infestations reduced somewhat by coating the trunk with white-wash in which arsenate of lead has been mixed, or with strong whale-oil soap suds. In any case, **burn at once all trimmings** that may harbor the insects or their eggs. But the best and most practicable remedy is to work the ground beneath the trees, fertilize and water it. See p. 39. If the insects are very active, cut the tree down and burn the wood at once; it can be expected to live only a short time anyhow; to delay its removal simply gives the beetles a chance to multiply and attack neighboring trees.

BROWN TAIL MOTH AND GYPSY MOTH.

The State is still free of these dangerous insects. Specimens of both have been discovered but thus far the State Entomologist has succeeded in exterminating them. There is, therefore, no necessity for assuming the great expense that New England now bears in its effort to control these pests.

TUSSOCK MOTH.

In several cities this insect does much damage besides being a general nuisance. **It can be controlled**, however, by picking off and destroying the cocoons in winter and banding the trees with cotton batting in May. If this is omitted, or is not effective, the caterpillars can be poisoned when on the foliage by spraying as for elm leaf beetles.

LEOPARD MOTH.

The larvæ of this insect do much damage in several of the northeastern cities, but the trouble is not general. Control is



**FIG. 27: BUTCHERED MAPLES: SUCH PRUNING IS NEVER JUSTIFIED.
WIRES DO NOT INTERFERE.**



**FIG. 28: TREES ABUSED BY BUILDERS: ALWAYS PUT STRONG GUARD ABOUT
TREES WHILE BUILDING IS GOING ON.**

difficult as the borers live in the trees two full years. **It is advised** that the borers be pursued in their burrows with wires or with carbon disulphid and especially **that insectivorous birds, which eat the moths, be encouraged.**

WHITE PINE BLISTER RUST.

This dreaded disease, which in 1909 threatened to become established with us, is apparently under complete control so far as New Jersey is concerned. A few affected trees were found in two small nurseries but the owner of each readily consented to the destruction of the entire stock. Notwithstanding this it is still advised that white pine be not planted in large quantities, but rather mixed with other species which are not susceptible.

MAPLE BLIGHT.

Many reports have been made of failing maple trees, chiefly sugar maples and norway maples. In most cases, the trouble was traced to a deficiency of water or to a lack of nutriment. **The remedy is to supply these deficiencies, and in some cases to reduce the draft on the roots by thinning the crown.** This should be done by **inside pruning, rarely by outside pruning, never by topping.**

STARVATION.

Forest trees rarely suffer in this way, or from lack of water, because Nature has provided for a supply of both in the unre-moved litter on the ground and in the unrestricted root system. It is a fact, however, that **more shade trees are lost through starvation or thirst than in any other way.** Owners are advised, *first*, to see that their trees do not lack water; if rain fails apply the hose. A drenching once a week is better than a sprinkling every day. *Second*, to be sure that the roots of the trees are **not cut off from air** by a close pavement, or even by a thick sod. The best condition is afforded by a free earth space about the base of each tree which is kept well cultivated. *Third*, to apply **fertilizer every spring.** If a tree has lacked for a number of

years apply in fall as well until a normal condition is reached. Well-rotted stable manure forked into the soil is best. If that is not available, or is objectionable, use a mixture of commercial fertilizer in the following proportions: For loamy or sandy soils equal weights of nitrate of soda, acid phosphate, muriate of potash and ground bone. For heavy soils use 2 parts nitrate of soda, 3 parts acid phosphate, 1 part muriate of potash, 2 parts bone meal. In either case **use not over 1-2 pounds** of the mixture to 100 sq. ft. of exposed soil. If the footing (open space at the base) of a tree is small, apply one ounce of fertilizer for each four square feet once a month between April and September.

TREE DOCTORS—WARNING.

The warning against fake tree doctors that has been issued for several years past is repeated. Notwithstanding several exposures and numerous complaints these men still ply their trade. Plenty of trees need doctoring and there are reputable tree doctors. The Forest Commission **urges owners of trees** to give them proper attention. It also urges them **not to employ irresponsible men**, and particularly not to allow an unknown man to prune a tree upon his own assertion that the tree needs it. Owners of shade trees are always advised to consult their local shade tree commissions when work is apparently necessary. If there is no such organization the State Forester, the State Entomologist, or the State Plant Pathologist will recommend competent men.

WOOD INDUSTRIES.

The **study of wood utilization** and wood values announced a year ago is **nearly ready for publication**. The field work, done by the U. S. Forest Service under a co-operative agreement, is finished and the revision of the tables, etc., is under way. It is expected that this report will be of considerable value to all buyers, sellers and users of wood.

The **Lumber Directory** of wood buyers is constantly gaining accessions and usefulness. It is not to be published but **to serve simply as a record of parties with whom any citizen having**



FIG. 29: A WOUND WITH A HARMFUL FILLING. NORMAL HEALING IS CHECKED AND THE TREE IS "BLEEDING."
(Note dark spot below wound).



FIG. 30: A WOUND CLEANED AND TARRED, BUT NOT FILLED. HEALING PERFECTLY.



FIG. 31: DOUBLE ROW OF PLANE TREES PLANTED AND MAINTAINED BY THE SHADE TREE COMMISSION AT COST OF PUBLIC SERVICE CORPORATION. EAST ORANGE.

Photo by E. H. Bennett.

wood to sell may deal. In numerous instances owners of chestnut timber have been helped to find buyers for a material that they themselves knew not how to dispose of. The Commission invites correspondence on this subject. Manifestly, its only object is to facilitate the utilization of forest products.

PUBLICATIONS.

In this direction the Commission has been more active this year than ever before. Grateful acknowledgment is made to the Commissioner of Public Instruction and his staff for their hearty co-operation in the effort to bring forestry and its aims before the public school pupils. Besides the Annual Report, of which 2,500 copies were distributed, the following have been issued:

1. *Cutting Trees on Land Not One's Own is Unlawful.* Edition 2,500.

A circular, distributed through the Granges, to answer many complaints of vandalism and show that no forest or tree owner need suffer if he will take the trouble to invoke the law. See p. 21.

2. *Trees and Forests.* 15 pp. with illustrations. Published by the Department of Public Instruction as Elementary Agriculture Leaflet No. 9. It is intended chiefly to show teachers how to connect forestry with geography, history, arithmetic, etc.

3. *Arbor Day.* 31 pp. A reprint, published by the Department of Public Instruction, of the series of papers first printed in 1912. Its aim is to fit arbor day exercises to New Jersey conditions.

4. *Forest Planting in New Jersey.* 31 pp. with illustrations. Edition 3,000. Gives full instructions for planting forest trees and some figures of cost and yield.

5. *Forest Fire Manual.* 44 pp. Edition 2,500. A handbook for firewardens and others who have to do with the control of forest fires.

6. *List of Firewardens.* 15 pp. Edition 1,000. A directory of all connected with the State Forest Fire Service.

7. *The Automobile.* Edition 50,000. A card of warning and advice to automobile drivers about forest fires. Distributed in co-operation with the State Motor Vehicle Department and the Associated Automobile clubs.

8. *New Jersey's Forest Fire Law.* Edition 5,000. A card showing what may and what may not be done with fire. Distributed through boy scouts, by mail, etc.

9. *Did You Ever Stop to Think?* Edition 50,000. A leaflet to emphasize the evil in forest fires and the dependence of all forestry upon forest fire control. Distributed chiefly through the rural schools.

10. *Forest Fires.* Edition 1,000. A card 9x11 inches printed in black on red and posted in rural railroad stations and other prominent places.

11. *Forest Fire Puzzle Cup.* Edition 100,000. A paper drinking cup (devised by the Western Forestry and Conservation Association) intended to emphasize

the forest fire evil as it is folded into usable shape. It was distributed in large quantities at several fairs and through the rural schools.

12. *Who Looks After Your Shade Trees?* Edition 20,000. A 4-page leaflet, illustrated, giving practical instructions about shade trees. Distributed chiefly through local Shade Tree Commissions. See Fig. 23.

All the above except Nos. 1, 6 and 10 are still available and will be sent free upon request.

"An Example of Woodlot Forestry" and *"The Planting and Care of Shade Trees,"* both published in 1912, are also available though the demand for the latter is so great that some restrictions are imposed.

STATE AID IN FORESTRY.

To encourage the practice of forestry on private lands, the Forest Commission offers the services of its foresters, so far as their time will permit, to all who ask for them. When it is necessary or advisable a competent forester will study the situation on the ground. If cutting is to be done a part of the trees to be felled will be marked to guide the owner in the removal of the rest. Advice in regard to markets will be given, but in no case will the forester have part or interest in a sale. Those who wish to undertake forest planting will be advised regarding the most suitable species for their situations, how to obtain the trees and how to plant them. No young trees or seeds are furnished by the State. Fire protective plans will also be formulated.

In all cases the assistance given is advisory. There is no obligation to follow the recommendations made, though where they are acted upon the Forest Commission claims the right to inspect the property from time to time and to publish facts concerning the work for the benefit of the public.

Similar aid will be given regarding **Shade Trees** except that inspections can ordinarily be made only upon the request of a Shade Tree Commission or similar public agency—not of an individual.

The cost to any owner is the forester's actual expenses while away from Trenton. His salary is paid by the State. Public institutions, Shade Tree Commissions, etc., will be aided without charge.

Write to the State Forester, Trenton, about anything relating to forests or shade trees—not fruit trees.

FOREST FIRES

BURNING BRUSH or SETTING FIRE in or near the woods **IS UNLAWFUL** throughout the year in this township **WITHOUT A WRITTEN PERMIT** from the local Firewarden. Penalty for violation, \$50 to \$200. A permit is not necessary if the fire is at least 200 feet from woodland or growth that may carry fire to the woods. Any legal **FIRE MUST BE WATCHED UNTIL** it is **ENTIRELY OUT**. Penalty for failure, \$50 to \$200.

To cause **A FOREST FIRE IS A VIOLATION OF THE LAW**. Penalty, \$50 to \$200.

A Firewarden's permit gives no release. Ignorance of the law is no excuse. Poor judgment or mishap relieves no one.

SMOKERS are warned that dropping lighted matches or tobacco in or near the woods may render them liable to this fine and do unguessed damage as well.

FIREWARDENS CAN ARREST ANYONE FOUND VIOLATING THE LAW

Small fires may grow larger and do your neighborhood much harm. Each fire stopped when small means increased property value to you and your neighbors. Put out at once any that you find, or, if you cannot do so, summon help.

All such fire-fighters are paid for their work if the local Firewarden is told of and approves the service within ten days after the fire.

John Jones Firewarden

Centre Township

4-2-15-16

BY ORDER OF THE FOREST PARK RESERVATION COMMISSION OF NEW JERSEY,
STATE HOUSE, TRENTON.

FIG. 32: NEW FIRE POSTER. WHEREVER THESE APPEAR THE FOREST FIRE LAW IS IN EFFECT.

The Forest Fire Service

BY CHARLES P. WILBER, STATE FIREWARDEN.

THE FIRE SEASON.

The year 1913 presents an unfortunate break in the record of diminishing forest fires. See Table II. New Jersey was hard hit, but the setback discloses **no weakening in the efficiency of the Fire Service**, for it is directly attributable to the weather, always the controlling and uncontrollable factor in forest fire prevention, as in crop production. The weather throughout the season combined in a curious way excessive moisture and abnormal drought; no one period of great duration, but in several instances unusually intense. In March and April brief but excessively dry periods combined with abnormally high winds. As all vegetation is undeveloped at that season and the sandy soils in the pine region dry out rapidly, this condition brought two periods of unusually disastrous fires in South Jersey. Out of a State total of 678 fires reported, 109 burned in March and 203 in April; and of the 27 large fires—those burning 500 acres or more, one occurred in early March and eight in the two dry periods of April. In May there was a **drouth almost unprecedented** in the history of South Jersey for that time of year. The local press of May 13 mentions the fact that not since 1880 had conditions of this sort been recorded. During this period 141 more fires were added. The result of these conditions is that we find charged to the spring nearly all of the bad fires and two-thirds of the total number for the year.

In June there was another lack of rainfall, which is to some extent reflected in the 88 fires that burned, though as vegetation was then advanced and the high winds of the spring were lacking, the fires were far smaller in size. At the end of June and throughout July, there was, according to the Atlantic City weather data, "less precipitation than during any year since the

establishment of the U. S. weather service here twenty-four years ago." These conditions grew more severe in August, the whole rainfall being limited to locally distributed and brief thunder showers. Large fires, however, were not encountered save on a few specific dates when the wind again made any spark a potential fire of large area. The total number of summer fires, 156, is less than those of the same three months last year, although conditions were more dangerous. The rainfall in the two fall months was normal and there were almost no fires.

TABLE II.—FOREST FIRES IN 1913, AND IN PREVIOUS YEARS.

Year.	No. of Fires.	Total Acres Burned.	Acres per Fire.	Total Loss.	Loss per Fire.
No organized service, incomplete reports.					
1872,		100,000		\$1,000,000	
1880,	54	71,074	1,316	252,240	\$4,671
1885,		128,000		1,128,000	
1895,	49	66,120	1,349	600,000	12,245
1902,	65	98,850	1,520	169,323	2,605
1903,	79	85,046	1,076	305,744	3,870
1904,	81	41,530	512	193,413	2,388
Organized fire service.					
1907,	167	11,525	69	11,647	70
1908,	533	52,978	100	64,536	121
1909,	563	93,525	166	133,944	238
1910,	611	81,452	133	127,850	209
1911, Forest Fires, ...	289	64,404	122	86,940	165
Embryo Fires †	239				
1912, Forest Fires, ..	214	26,291	48	21,501	39
Embryo Fires, †	331				
1913, Forest Fires, ..	311	53,823	77	67,205	99
Embryo Fires, †	367				

† Burned less than five acres.

NUMBER AND AREA OF FIRES.

In numbers, the record of fires of 1913, as shown in Table III below, bears out the expected increase in the embryo class due to more conscientious reporting of every fire. The marked increase in the number of true forest fires mirrors the acute climatic conditions of the Spring. The striking feature is that, **with so many more fires started under adverse conditions, the proportion of them that reached five acres in size shows so slight an increase** over that of a year ago. See Table III. It is encouraging to find that 54 per cent of all fires recorded were but embryos and that but 13 per cent burned more than 100 acres. The total area burned marks a still greater increase over a year ago, though analysis shows that **80 per cent of the**

TABLE III.—FOREST FIRES BY RELATIVE AREA BURNED, AND BY COUNTIES, 1913.

COUNTY.	Number of Forest Fires.					Total Embryo Fires (less than 5 acres)
	5-10 Acres.	11-100 Acres.	101-1000 Acres.	Over 1000 Acres.	Total.	
<i>North Jersey,</i>						
Bergen,	2	.....	.....	.....	2	18
Morris,	3	23	1	.....	27	31
Passaic,	1	5	.....	.....	6	20
Somerset,	3	3	1	.....	7	12
Sussex,	3	17	2	.....	22	25
Warren,	1	1	.....	.....	2	12
Total,	13	49	4	.....	66	118
<i>South Jersey,</i>						
Atlantic,	8	34	18	6	66	49
Burlington,	4	17	11	3	35	17
Camden,	3	17	3	.....	23	46
Cape May,	7	10	4	1	22	48
Cumberland,	4	13	6	.....	23	12
Gloucester,	2	4	6	.....	12	.....
Mercer, .....	.....	.....	.....	.....	.....	.....
Middlesex,	3	10	2	.....	15	15
Monmouth, .....	.....	8	5	.....	13	9
Ocean,	6	14	11	1	32	51
Salem, .....	.....	1	.....	.....	1	2
Fires that burned in more than one county .....	.....	.....	2	1	3	.....
Total,	37	128	68	12	245	249
State totals.....	50	177	72	12	311	367
Per cent of total..	7	26	11	2	46	54

total is chargeable to 27 fires which burned on dates that stand out as notably hazardous. Thirteen of these, driven by high winds, burned 500 acres or more, with an aggregate of almost 20,000 acres out of the year's total of 53,823 acres.

CAUSES OF FIRES.

(See Table IV.)

RAILROAD FIRES.

Of the known agents, **the railroads** are as they have always been, the worst offenders. This year they **started 31 per cent of the true forest fires and 57 per cent of those described as embryo fires**, any of which but for prompt attention might have ranked as a forest fire. This preponderance of railroad fires need not be, as is strikingly indicated in the experience of **the Pennsylvania Railroad system** (see Table V). By exercising care in the operation of its locomotives, and by emphasizing the importance of fire control, this company **almost nullified the dangers of the season**, and reduced the number of fires on account of which claims for expenses were made from 63 a year ago to 18 this year.

The marked difference between this and the Atlantic City Railroad's record suggests **a failure to solve the mechanical and administrative problems involved** in the kind of fuel used, the type of locomotive and its operation. Portions of this line, as of the New Jersey Central Railroad, run through a territory so sparsely peopled that large fires are easily developed through lack of help to control them in the early stages.

BRUSH FIRES.

Fires from brush burning were 9 more than occurred last year. True forest fires from this cause were fewer than in any previous year's record, the slight increase being all in embryo fires. This record reflects directly **the decreased number of unnecessary fires** now started under the permit requirement, and the increased caution that strict enforcement of the permit law has secured.



Photo. by Hugh P. Baker.

FIG. 33: THE EXPLOSION THAT STOPPED THE FIRE.



Photo by Hugh P. Baker.

FIG. 34: A PART OF THE GROUND AFTER THE EXPLOSION. THE FIRE CAN BE EASILY CONTROLLED NOW.

FIGHTING A FOREST FIRE WITH DYNAMITE.

TABLE IV.—FOREST FIRES BY CAUSES AND COUNTIES, 1913.

COUNTY.	NUMBER.											
	Locomotive		Brush Burning		Smokers		Sportsmen		Miscellaneous		Unknown	
	FF	eF	FF	eF	FF	eF	FF	eF	FF	eF	FF	eF
<i>North Jersey.</i>												
Bergen,	2	15	...	...	...	...	2	...	...	...	1	2
Morris,	6	9	...	1	2	1	6	6	2	1	11	13
Passaic,	3	14	...	1	1	...	1	4	...	...	1	6
Somerset, .....	...	1	1	1	3	...	1	1	...	1	2	8
Sussex,	13	13	...	2	1	1	2	2	3	5	4	22
Warren,	1	5	...	...	...	1	...	1	...	1	1	4
Totals,	25	57	1	5	7	3	9	16	4	6	20	31
<i>South Jersey.</i>												
Atlantic,	23	32	9	2	4	3	1	1	5	1	24	10
Burlington,	9	5	2	...	1	4	2	...	2	1	19	7
Camden,	10	29	2	4	2	4	...	...	...	2	9	7
Cape May,	19	40	...	3	...	...	...	...	...	...	3	5
Cumberland,	1	3	1	5	...	1	...	...	5	...	16	3
Gloucester,	2	...	4	...	1	...	1	...	...	...	4	...
Mercer, .....	...	...	...	...	...	...	...	...	...	...	...	...
Middlesex,	1	2	2	2	6	3	1	...	1	1	4	7
Monmouth,	1	4	1	1	3	...	1	1	1	1	6	2
Ocean,	6	37	1	...	4	2	1	1	1	3	19	8
Salem, .....	...	...	...	...	1	...	...	...	1	1	...	1
Fires than burned in more than one county, .....	...	...	2	...	...	...	...	...	...	1	...	3
Totals,	72	152	24	17	21	18	7	3	16	10	105	49
State totals	97	209	25	22	28	21	16	19	20	16	125	80
Per cent. of total.	45		7		7		5		6		30	...

FF—Forest Fires.

eF—Embryo Fires; (less than 5 acres).

SMOKERS' FIRES.

A hopeful fact is the increased proportion of fires fixed on this source. There can be no doubt that, **next to the railroads, smokers create the greatest fire menace** to our woodlands because they are the most difficult to control. That the wardens have this year fixed double the number of fires upon this agency that they did in 1912 strengthens the belief that promptness and persistence are telling.

SPORTSMEN'S FIRES.

Each year with the advent of the open seasons for fish and game, a series of fires begins for which sportsmen are responsible. Whether they be fishermen or gunners, they, like the smokers, are most difficult to apprehend, both because they themselves are transients and because the regions into which their pursuit takes them are unpeopled and remote. Although fires from this cause have not been isolated in the published records heretofore **there has been an annual increase in the number** known to have so originated. Intentional responsibility is not charged in this connection; indeed, the sportsman's interest demands unburned woodland. The excitement of the sport and a failure to appreciate the significance of a spark are generally to blame for such fires. Control of these fires depends upon the development of a higher sense of responsibility among the sportsmen.

MISCELLANEOUS FIRES.

Year by year a small proportion of the fires, smaller this year than last, arises from causes too varied to deserve special consideration. Of these the **huckleberry pickers cause most** and are most difficult to control. **Children** at play **also cause** a number of **fires**. Especial effort is being made to reduce this danger through the schools, the Boy Scout Movement and other channels.

THE
FOREST FIRE SERVICE
OF NEW JERSEY
BY TOWNSHIPS
1913

Scale of Miles
0 1 2 3 4 5



FIG. 35: THE STATE, SHOWING FORESTS AND WHERE FOREST FIRE SERVICE IS MAINTAINED.

TABLE V.—THE RELATION OF THE PRINCIPAL RAILROADS OF THE STATE TO FOREST FIRES, 1913.

RAILROAD.	Forest Exposure in Miles	Number of Fires Chargeable in 1913		Claims Presented on Account 1913 Fires		Proportion of Responsibility	
		Total Number	Per each 10 miles of Forest Exposure	Number	Amount	Per cent. of all fires caused by Railroads	Per cent. of all fires from every cause.
Atlantic City, ...	157	135	8.5	102	\$711.01	44	19.9
D. L. & W.,	52	10	1.9	7	46.50	3	1.5
Erie,	32	2	.6				.3
Lehigh & Hudson	4	\$1		1	6.00		.1
Lehigh & New E.	4	\$6		2	4.00	1	.9
N. J. Central ...	202	56	2.8	44	526.80	18	8.3
N. Y. S. & W...	29	58	20.	40	260.00	19	8.6
Pennsylvania	310	26	.8	15	93.30	8	3.8
Raritan River ..	13	1	.8	1	7.00		.1
Tuckerton	38	10	2.7	7	85.25	3	1.5
Totals	†841	*305		219	\$1739.86	.....	45.

† Does not represent the entire R. R. forest exposure of the State.

* One additional fire charged to the Wharton and Northern R. R., but with no basis for claim.

§ Not on own right-of-way, but while running over track of another railroad.

THE FOREST FIRE SERVICE.

In consequence of the considerable increase in the number of firewardens, and in the territory covered, which took place when the service was reorganized in 1911 and 1912, the growth in 1913 has been largely through internal development. Only one township has been added to the list of those covered by the Fire Service, that of Pleasantville, Atlantic County. In numbers the enlisted force has been slightly increased, there being now 112 township wardens and 157 district and deputy wardens, with the same three fire watchers that have served for several years past.

The distinct improvement in the organization is due largely to the increased stability of the personnel and to the readier accessibility of the wardens, both in times of fire and for the issuance of brush burning permits. In the force this season

there were but 45 new appointees, a great gain in this respect over past years. This means on the one hand that many of the men find the work worth while and are willing to continue in it; and on the other that they have been tried and found capable. The larger number of changes made were effected to secure for the wardenship men who lived on telephone lines. Despite poor facilities in most of the larger forest areas, over 50 per cent of those serving can now be reached by telephone. This course has still further added to the effectiveness of the local organization by inducing increased promptness in reaching fires. In many instances, the telephone has also curtailed expense by preventing the assembling of needlessly large forces at small fires, or the attendance of several wardens at one fire.

TABLE VI.—SUMMARY OF FOREST FIRE BUSINESS 1913 WITH SOME COMPARATIVE FIGURES FROM TWO YEARS PRECEDING.

Year of Fires.	Total Reports Received		Total Cases Specially Investigated	Total Cases Violation Fixed	Total Townships Covered	Total No. Firewardens	Action on Supposed Violations During 1913 †						
	Forest Fires	Embryo Fires ‡					Individual				Railroad Claims		Dropped
							Court Trial		No Trial		Settled	Pending	
							Settled	Pending	Settled	Pending			
1911	309	239	206	237	100	228	3	.....	.....	.....	1	9	5
1912	214	331	133	235	111	261	1	§2	7	....	68	44	14
1913	311	361	96	348	113	269	....	2	63	24	90	129	40
Totals							4	4	70	24	159	182	*59

§ Both of these cases are awaiting appeal.

* 5 cases dropped for lack of evidence; 8 cases in which offenders left the State and have not returned; 46 cases in which R. R. claims were not made because the township bills of costs were too tardy to permit their presentation.

¶ All but 37 of these were settled before March 1, 1914.

† See also Tables VIII and IX.

‡ Burned less than 5 acres.



FIG. 36: A MATCH DROPPED BESIDE THIS ROAD AT A DRY TIME WOULD ALMOST SURELY CAUSE A FIRE.



FIG. 37: THE DANGER IS GREATLY LESSENED BY ROADSIDE CLEARING, AS HERE.

OUR FORESTS ARE FIRED AND BURN FIERCELY BECAUSE THEY ARE SO LARGELY IN THE BRUSH STAGE. CLEARING THE ROADS WILL DO MUCH TO PREVENT FIRES AND TO CONTROL THEM.

With a far larger volume of responsibility fixed, the cases have been much fewer in which unsatisfactory preliminary preparation of the matter by the local wardens has demanded further investigation. This and the use of motor vehicles have enabled the division wardens to give personal attention to most of the more dangerous fires and to assist more effectively in **enforcing a strict observance of the fire law**. A summary of the year's activities is given in Table VI, which shows improvement in every respect over the records of previous years.

WARDENS' CONFERENCES.

In the late winter and early spring a new step in developing the local fire service was taken by calling a conference of local firewardens in each of the divisions. Despite uniformly bad weather, these four meetings brought out a large attendance and awakened an interest among the firewardens far beyond that anticipated. The value of these gatherings is measured by **increased personal activity** among the wardens, by firmer and more **widespread co-operation** between neighboring wardens, by closer attention to detail in investigating and reporting fires, and by a more thorough appreciation of the larger problems in the solution of which each local service plays its part. The result has been **a more effective, independent and publicly recognized organization** than we have ever had.

TABLE VII.—FOREST FIRES BY COUNTIES AND TOWNSHIPS, 1913.

County and Township.	Number		Acres Burned	Loss to Forests and Other Property	Cost to Extinguish	Paid by †		
	Forest Fires	Embryo Fires				Township	State	Offenders
<i>Atlantic County—</i>								
Absecon (City), ..	1	...	10	\$ 5	\$ 4.00	...	...	\$ 4.00
Buena Vista,	19	12	879	572	183.40	\$ 32.87	\$ 32.88	119.65
Egg Harbor,	12	2	880	805	152.18	64.60	64.58	5.00
Egg Harbor (City)	...	2	...	...	18.00	3.50	3.50	16.00
Folsom, .....	...	...	...	...	...	...	...	...
Galloway,	11	11	1660	1195	239.85	102.80	102.80	44.25
Hamilton,	10	1	11178	9300	541.65	185.69	185.71	175.25
Hammononton,	6	2	495	330	92.41	39.71	39.70	13.00
Mullica,	5	6	1250	560	194.03	66.07	66.06	61.90
Pleasantville, ....	...	...	...	...	...	...	...	...
Port Republic, ....	...	...	...	...	...	...	...	...
Weymouth,	8	13	6106	8313	348.26	43.53	43.52	261.21
Total,	72	49	22450	\$21080	\$1746.78	\$ 538.77	\$ 538.75	\$ 700.26
<i>Bergen County—</i>								
Franklin, .....	...	...	...	...	...	...	...	...
Hohokus, .....	...	1	...	...	6.00	3.00	3.00	...
Oakland (Boro.)	2	17	16	...	51.20	15.45	15.45	20.30
Ridgefield (Boro.)	...	...	...	...	...	...	...	...
Total,	2	18	16	...	\$ 57.20	\$ 18.45	\$ 18.45	\$ 20.30
<i>Burlington County—</i>								
Bass River,	1	2	1075	350	166.10	83.05	83.05	...
Evesham,	5	...	595	460	39.75	14.38	14.37	11.00
Medford,	6	2	137	310	180.10	90.07	90.03	...
New Hanover, ..	2	1	45	45	31.00	15.50	15.50	...
Pemberton,	3	1	300	595	66.65	27.38	27.37	21.90
Shamong,	11	4	2660	5005	490.86	80.72	80.74	329.40
Southampton,	1	...	250	200	53.60	26.80	26.80	...
Tabernacle,	2	2	1450	2320	59.95	28.98	28.97	2.00
Washington,	4	...	570	220	59.40	29.70	29.70	...
Woodland,	6	5	565	1345	204.30	97.35	97.35	9.60
Total,	41	17	7667	\$10850	\$1350.71	\$ 493.93	\$ 493.88	\$ 373.90
<i>Camden County—</i>								
Berlin,	3	3	238	256	10.00	5.00	5.00	...
Chesilhurst (Boro)	...	2	...	...	16.90	8.45	8.45	...
Clementon,	2	3	70	30	27.75	5.50	5.50	16.75
Delaware, .....	...	1	...	...	9.00	...	...	49.00
Gloucester,	3	5	256	135	53.00	18.74	18.76	15.50
Voorhees, .....	...	1	...	...	...	...	...	5.00
Waterford,	4	...	205	200	40.60	16.17	16.18	8.25
Winslow,	12	31	634	400	221.90	35.42	35.43	156.05
Total,	24	46	1403	\$ 1021	\$ 377.15	\$ 89.35	\$ 89.39	\$ 250.55

FIREWARDEN'S REPORT.

53

TABLE VII.—FOREST FIRES BY COUNTIES AND TOWNSHIPS,
1913—Continued.

County and Township.	Number		Acres Burned	Loss to Forests and Other Property	Cost to Extinguish	Paid by †		
	Forest Fires	Embryo Fires				Township	State	Offenders
<i>Cape May County—</i>								
Dennis,	4	5	1717	\$ 1922	\$ 79.60	\$ 9.50	\$ 9.50	\$ 60.60
Lower,	16	.....	.....	35	59.25	21.50	21.50	34.25
Middle,	13	23	1580	1550	205.90	53.12	53.13	159.65
Upper,	5	4	373	280	75.40	9.90	9.90	55.60
Woodbine (Boro.) .....	.....	.....	.....	.....	.....	.....	.....	10.00
Total,	22	48	3670	\$ 3787	\$ 480.15	\$ 94.02	\$ 94.03	\$ 320.10
<i>Cumberland County—</i>								
Commercial,	1	...	150	100	25.85	12.93	12.92	.....
Deerfield,	2	2	145	140	20.00	10.00	10.00	.....
Downe,	1	3	50	130	34.62	11.31	11.31	12.00
Fairfield,	2	1	45	50	17.00	8.50	8.50	.....
Landis,	7	...	300	255	56.40	28.20	28.20	5.00
Lawrence,	1	3	200	360	40.40	16.83	16.82	6.75
Maurice River,	2	.....	.....	.....	9.00	4.50	4.50	5.00
Millville (City),	10	3	1105	940	144.10	72.05	72.05	10.00
Total,	24	14	1995	\$ 1975	\$ 347.37	\$ 147.49	\$ 147.48	\$ 32.00
<i>Gloucester County—</i>								
Clayton (Boro.) ..	1	...	25	25	44.60	22.30	22.30	.....
Elk, .....	.....	.....	.....	.....	.....	.....	.....	.....
Franklin,	4	...	950	1375	63.80	26.85	26.85	10.10
Monroe,	9	...	1361	1675	164.70	63.94	63.96	37.80
Total,	14	...	2336	\$ 3075	\$ 273.10	\$ 113.09	\$ 113.11	\$ 48.90
<i>Mercer County—</i>								
Princeton, .....	.....	.....	.....	.....	.....	.....	.....	.....
Total, .....	.....	.....	.....	.....	.....	.....	.....	.....
<i>Middlesex County—</i>								
East Brunswick, ..	4	1	312	235	50.25	21.62	21.63	30.00
Madison,	3	4	335	335	167.30	83.65	83.65	.....
Monroe,	1	.....	.....	5	6.00	3.00	3.00	.....
Sayreville,	8	6	164	80	87.70	40.34	40.36	7.00
South Brunswick, ..	3	.....	.....	.....	25.40	8.20	8.20	9.00
Total,	15	15	811	\$ 655	\$ 336.65	\$ 156.81	\$ 156.84	\$ 46.00
<i>Monmouth County—</i>								
Atlantic, .....	.....	.....	.....	.....	.....	.....	.....	.....
Freehold,	1	1	35	55	28.00	14.00	14.00	.....
Howell,	7	8	322	425	180.45	46.63	46.62	98.70
Middletown, .....	.....	.....	.....	.....	.....	.....	.....	.....
Shrewsbury,	2	.....	143	125	31.96	15.98	15.98	.....
Wall,	4	...	2214	4105	124.90	62.45	62.45	.....
Total,	14	9	2714	\$ 4710	\$ 365.31	\$ 139.06	\$ 139.05	\$ 98.70

REPORT OF THE FOREST COMMISSION.

TABLE VII.—FOREST FIRES BY COUNTIES AND TOWNSHIPS,
1913—Continued.

County and Township.	Number		Acres Burned	Loss to Forests and Other Property	Cost to Extinguish	Paid by †		
	Forest Fires	Embryo Fires				Township	State	Offenders
Morris County—								
Boonton,	1	.....	.....	.....	\$ 4.50	\$ 2.25	\$ 2.25	.....
Hanover,	2	10	47	\$ 67	105.10	49.05	49.05	\$ 7.00
Jefferson,	2	3	23	51	39.20	19.60	19.60	.....
Montville,	2	1	75	55	1.80	.90	.90	.....
Mt. Arlington, .....	.....	.....	.....	.....	.....	.....	.....	.....
Mt. Olive,	1	1	40	55	17.00	3.50	3.50	10.00
Pequannock,	5	6	238	505	106.15	25.00	25.00	56.15
Randolph,	1	2	20	20	20.80	10.40	10.40	.....
Rockaway,	10	6	288	273	143.30	71.65	71.65	10.00
Roxbury,	4	1	145	135	20.35	10.62	10.63	.....
Total,	27	31	876	\$ 1161	\$ 450.70	\$ 192.97	\$ 192.98	\$ 83.15
Ocean County—								
Berkeley,	3	2	1006	1100	94.10	45.05	45.05	9.00
Brick,	3	1	75	90	26.60	13.30	13.30	10.00
Dover,	3	1	1115	2327	171.10	85.55	85.55	.....
Eagleswood,	1	7	25	50	50.75	14.30	14.30	22.15
Jackson,	2	1	240	140	20.75	10.37	10.38	.....
Lacey,	5	8	8004	9215	140.85	41.00	41.00	58.85
Lakewood,	3	2	532	820	16.70	80.85	80.85	.....
Little Egg Harbor, .....	.....	.....	.....	.....	.....	.....	.....	.....
Manchester,	3	27	1770	3020	241.00	58.70	58.70	123.60
Ocean,	1	1	150	40	17.40	6.50	6.50	4.40
Plumstead,	1	.....	15	5	5.00	.....	2.50	15.00
Stafford,	4	.....	59	110	60.50	7.00	7.00	46.50
Union,	6	1	325	670	193.40	69.52	69.53	54.35
Total,	35	51	13306	\$17587	\$1182.65	\$ 432.14	\$ 434.66	\$ 343.85
Passaic County—								
Pompton,	1	7	30	30	27.00	13.50	13.50	.....
West Milford,	5	13	195	195	147.50	21.92	21.93	103.65
Total,	6	20	225	\$ 225	\$ 174.50	\$ 35.42	\$ 35.43	\$ 103.65
Salem County—								
Alloway, .....	.....	.....	.....	.....	.....	.....	.....	.....
L'r Alloways Creek, .....	.....	.....	.....	.....	.....	.....	.....	.....
Pittsgrove, .....	.....	.....	.....	.....	.....	.....	.....	.....
Quinton,	1	2	35	15	23.25	11.63	11.62	.....
Total,	1	2	35	\$ 15	\$ 23.25	\$ 11.63	\$ 11.62	.....
Somerset County—								
Bernard,	1	2	10	10	30.00	7.50	7.50	15.00
Bridgewater, .....	.....	5	.....	.....	27.90	12.45	12.45	3.00
North Plainfield,	5	4	271	130	67.30	29.40	29.40	8.50
Warren,	1	1	8	5	25.00	12.50	12.50	.....
Total,	7	13	289	\$ 145	\$ 150.20	\$ 61.85	\$ 61.85	\$ 26.50

TABLE VII.—FOREST FIRES BY COUNTIES AND TOWNSHIPS,
1913—Continued.

County and Township.	Number		Acres Burned	Loss to Forests and Other Property	Cost to Extinguish	Paid by †		
	Forest Fires	Embryo Fires				Township	State	Offenders
<i>Sussex County—</i>								
Byram,	4	1	65	\$ 40	\$ 29.50	\$ 6.00	\$ 6.00	\$ 17.50
Frankford,		1						
Hardyston,	10	15	695	519	128.20	10.87	10.88	106.45
Hopatcong,		1			6.30			6.30
Montague,		1			6.50	3.25	3.25	
Sandyston,								
Sparta,	4	2	106	110	59.60	15.30	15.30	29.00
Stillwater,		2		10	16.00	8.00	8.00	
Vernon,	4		340	485	55.85	27.93	27.93	
Wallpack,		1			6.00	3.00	3.00	10.00
Wantage,		1			2.15	1.07	1.08	
Total,	22	25	1206	\$ 1164	\$ 310.10	\$ 75.42	\$ 75.43	\$ 169.25
<i>Warren County—</i>								
Allamuchy,								
Blairstown,		1		10	8.75	4.38	4.37	
Hardwick,		1		10	8.25	4.12	4.13	
Knowlton,	1	8	7	10	20.00	3.00	3.00	14.00
Pahaquarry,	1	2	30	50	18.00	7.00	7.00	4.00
Total,	2	12	37	\$ 80	\$ 55.00	\$ 18.50	\$ 18.50	\$ 18.00
State Total.....	*326	368	53823	\$67205	\$7628.07	\$2631.40	\$2631.45	\$2635.11†

* This total is greater than the actual number (311) because 15 fires burned in two or more townships at once.

† The sum of these columns often differs from the corresponding "Cost to Extinguish" item because a fine was larger than the bill, or a bill was withdrawn, etc.

‡ This total is greater than the year's collection (\$1538.67) because all violation cases are not yet settled.

VIOLATIONS OF LAW.

Of all fires reported, 45 per cent have been fixed as violations of the law, a proportion, equal to that of last year, despite the increased number of the fires. The specific distribution and disposition of these cases is fully shown in Tables VIII, IX, X, XI and XII. Attention is directed particularly to the fact that

65 per cent of all 1913 violations have been settled within the year, a larger percentage than has ever been shown heretofore, and to the fact that there remain so few unsettled cases from the two preceding years. All but three of these last are of railroad origin, the settlement of which is expected soon.

The recorded number of purely **technical violations** of the law,—such as illegal backfiring or brush burning without a permit though the fire did not escape,—has increased from seven in 1912 to thirteen this year. This indicates, not that the number of such offenses has grown but, that the wardens are more active in discovering them and less inclined to ignore them when known. This promises for the future **less needless burning** and, therefore, fewer opportunities for the escape of fire.

In most cases the penalty imposed is a fine ranging from a nominal sum to fifty dollars. **Only occasionally is it necessary to resort to prosecution.** There is the best of feeling between public officials and the fire service. One vagrant who made and was careless with a camp fire was jailed by the local authorities through the activity of the local warden. In other instances local police authorities have called upon the Fire Service for help. A county prosecutor willingly undertook to prosecute one aggravated case and to secure a prison penalty, which cannot be done under the Forest Fire Law. These instances are cited, not because of their individual importance but because they are indicative of the public interest in forest fire control and of confidence in the work of the Fire Service.

A study of Tables X, XI and XII will indicate that the **violators are leniently dealt with.** That is in accord with the policy of the Forest Commission because most violations are unintentional and because the results sought are not punitive but corrective. The total amount of the **penalties collected** for the year was \$1,538.67. Of this \$1,149.02 was paid by railroads and \$389.65 by other agencies. See note, p. 8.



FIG. 38. TWO KINDS OF LOOKOUTS. FIG 39.



FIG. 40: READY FOR A FIRE CALL.



FIG. 41: A RAILROAD FIRE LINE. WHEN KEPT CLEAR LIKE THIS, IT EFFECTIVELY PROTECTS THE ADJOINING FOREST.
MEANS TO CONTROL FOREST FIRES.

FIREWARDEN'S REPORT.

57

TABLE VIII.—VIOLATIONS OF THE FOREST FIRE LAW HANDLED IN 1913: STATUS OCTOBER 31, 1913.

Kind of Violation.	1911 Cases Carried Over.					1912 Cases Carried Over.					1913 Cases.					Additional Cases Settled between Nov. 1 and Mar. 1, 1914
	Totals	Pending	Settled	Dropped	Offender Out of Jurisdiction	Totals	Pending	Settled	Dropped	Offender Out of Jurisdiction	Totals	Pending	Settled	Dropped	Offender Out of Jurisdiction	
Railroad,	12	9	1	2	.....	125	44	68	13	.....	255	129	90	*36	.....	132
Brush Burning,	6	.....	3	.....	3	9	3	5	.....	1	72	20	49	.....	3	10
Smokers, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	2	2	.....	1	1
Miscellaneous, .....	.....	.....	.....	.....	.....	2	.....	2	.....	.....	15	5	9	1	.....	3
Totals,	18	9	4	2	3	136	47	75	13	1	†350	156	150	40	4	146

* In every case claim was forfeited because the Township bill of expense was received too late.

† Includes 39 Technical Violations of the backfiring and brush burning laws from which no forest fire resulted.

‡ The official year closes October 31.

TABLE IX.—SUMMARY OF CLAIMS AGAINST THE VARIOUS RAILROADS ON ACCOUNT OF FOREST FIRES, 1913.

RAILROAD.	Disposition of Claims in 1913.										Supplement *										
	1911 Cases Carried Over			1912 Cases Carried Over			1913 Cases			Total Cases Handled			Settlements Since Nov. 1, 1913			Still Pending Mar. 1, 1914					
	1911 Cases Carried Over			1912 Cases Carried Over			1913 Cases			Total Cases Handled			Settlements Since Nov. 1, 1913			Still Pending Mar. 1, 1914					
	Totals	Pending	Settled	Dropped	Totals	Pending	Settled	Dropped	Totals	Pending	Settled	Dropped	1911 Cases	1912 Cases	1913 Cases	Totals	1911 Cases	1912 Cases	1913 Cases	Totals	
Atlantic City,	1	1	1	1	52	2	46	4	118	33	69	16	170	35	115	20	2	31	33	2	
D. L. & W.,	1	1	1	1	6	2	2	2	9	5	2	2	16	7	5	4	2	5	7	4	
Erie,	1	1	1	1	1	1	1	1	3	2	1	1	4	1	2	2	1	1	1	1	
Lehigh & Hudson,	1	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	
Lehigh & New Eng.,	1	1	1	1	19	17	2	1	52	42	2	8	71	42	19	10	2	2	2	2	
N. J. Central,	1	1	1	1	10	4	2	4	44	25	14	5	55	29	16	10	4	11	15	10	
N. Y. S. & W.,	10	6	35	1	4	35	1	1	18	15	3	3	65	60	5	5	6	13	54	2	
Pennsylvania,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Raritan River,	1	1	1	1	1	1	1	1	7	3	4	1	7	6	1	1	3	3	3	3	
Tuckerton,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Totals,	12	6	1	5	124	43	68	13	255	126	93	36	302	182	159	51	6	42	80	132	37

* The official year closes on October 31. This section therefore is not strictly a part of this report.

FEDERAL FIRE PATROL.

The aid furnished by the Federal Government is one of the most valuable that the Fire Service enjoys. Under the co-operative agreement first entered into in 1911 the State's efforts are recognized and **\$2,000 a year** allotted for the execution of the so-called Weeks Law. That law seeks to **protect the watersheds of navigable streams** and, as interpreted, applies in New Jersey only to the northern rivers. Under the agreement the money appropriated can be used only to pay lookouts and patrolmen in that section.

The first thoroughly equipped and **continuous forest fire lookout in the State** was installed this season under this agreement and through the generous co-operation of the Board of Street and Water Commissioners of Newark. A high tower already standing on the city's property on Bearfort Mountain was provided by the Commissioners with telephone connection and a suitable house for the watcher's headquarters. Since the facilities became available, in the middle of June, a watcher has been on constant duty. With good binoculars, a detailed map of the territory which the tower commands and a thorough knowledge of the location of, and means of reaching, the local wardens promptly, the watcher **has not failed to announce every fire** that has occurred within his range.

Patrol work in the spring and summer was limited to two men who covered areas of peculiar hazard, doing the work by saddle horse or driving because of their extended territories. **The entire absence of fires of size within the patrolled areas,** and the almost negligible number of fires of any kind within these territories evidence the value of the work. With the opening of the gunning season on October 10, the force of **patrolmen was increased to fourteen.** Their routes covered the bulk of the territory traversed by gunners and their activities practically eliminated fires. The work done along this line for three years past has counted for more than the actual fire control afforded in that it has convinced the public that forest protection does protect. Without patrol the same result undoubtedly would have been reached, but far more slowly and at the cost of many an additional acre burned.

RAILROAD FIRE LINES.

With the decision which nullified the fireline law, see p. 7, all effort to continue fireline construction ceased. But since most of the firelines made or maintained during the past three years are the result of voluntary co-operation of a railroad with the property owners **there is hope that firelines** as an aid to fire control **will not be given up**. Hearty and willing co-operation is offered by the Fire Service to the extent of its powers.

PUBLICITY.

Recognizing the fact that the ultimate **control of forest fires depends upon personal care** in handling fire, a special effort has been made to reach the public upon whom the burden lies. In addition to the Fire Manual, List of Firewardens and Township fire notices, published annually, there have been issued five other publications of general or specific application, see p. 41. These have been thoroughly distributed by both public and private agencies. Increased co-operation has been sought from the press and universal willingness to aid has been found.

FIREWARDEN'S REPORT.

61

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1913.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
	<i>Atlantic County—</i>			
April 4,	Absecon,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
Jan. 31,	Buena Vista,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
Feb. 12,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.00.
March 2,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Claim withdrawn.
March 6,	Buena Vista,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
March 9,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$7.00.
April 1,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$8.00.
April 1,	Buena Vista & Hamilton,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 2,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$5.00.
April 2,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.00.
April 4,	Buena Vista,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 4,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Claim withdrawn.
April 4,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.00.
April 9,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$5.00.
April 9,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$1.50.
April 19,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$7.00.
April 20,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$4.00.
May 2,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 3,	Buena Vista,	Frank Tireani,	Set fire without permit and allowed it to escape,	Pending.
May 8,	Buena Vista,	Andrew Fiocchi,	Set fire without permit and allowed it to escape,	Pending.
May 11,	Buena Vista,	Juliano Loro,	Set fire without permit and allowed it to escape,	Pending.
May 29,	Buena Vista,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 21,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
Sept. 15,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Pending.
June 11,	Egg Harbor,	Joseph Farr,	Allowed brush fire to escape,	Paid fine, \$5.00.
March 3,	Egg Harbor City,	Charles Smith,	Set fire without permit,	Paid firewarden's bill, \$5.00.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1913—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
	<i>Atlantic Co.—Cont'd.</i>			
April 2,	Egg Harbor City,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
March 9,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
March 25,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 2,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 6,	Galloway,	George Turner,	Dropped lighted match,	Pending, fled jurisdiction.
April 9,	Galloway,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.00.
April 22,	Galloway,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 8,	Galloway,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 12,	Galloway,	Natale Caruso,	Set illegal backfire,	Paid fine, \$10.00.
June 1,	Galloway,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
June 5,	Galloway,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
August 2,	Galloway,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
Sept. 10,	Galloway,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 4,	Hamilton,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 21,	Hamilton,	Philip Fredman,	Allowed brush fire to escape, ..	Released with warning.
May 1,	Hamilton,	Joseph Polimia,	Set fire without permit,	Paid fine, \$5.00.
May 3,	Hamilton,	James Skinner,	Allowed brush fire to escape, ..	Paid fine, \$38.50.
May 10,	Hamilton,	George Giberson,	Set fire without permit and al- lowed fire to escape,	Dropped, insufficient evidence.
May 10,	Hamilton & Mullica, ..	Joseph Stephenson,	Fire started from defective camp stove,	Released with warning.
May 12,	Hamilton,	Henry Oeltzenbruns, Dietrich Oeltzenbruns and Ernest Werner,	Maliciously set fire,	Prosecution pending.
May 12,	Hamilton,	Paul Pirke,	Carelessly threw away lighted match,	Pending.
July 31,	Hammonton,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
March 9,	Mullica,	W. T. Weeks,	Allowed brush fire to escape, ..	Dropped, insufficient evidence.

FIREWARDEN'S REPORT.

63

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1913—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
<i>Atlantic Co.—Cont'd.</i>				
March 25,	Mullica,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.00.
March 26,	Mullica,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$10.00.
April 1,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 9,	Mullica,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$24.40.
April 10,	Mullica,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.00.
March 24,	Weymouth,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.35.
April 1,	Weymouth,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 4,	Weymouth & Hamilton,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 9,	Weymouth,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 19,	Weymouth,	George Greller,	Allowed brush fire to escape,	Paid firewarden's bill, \$0.60.
April 22,	Weymouth,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 1,	Weymouth,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
<i>Bergen County—</i>				
Nov. 11, 1912, ..	Oakland,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
Feb. 19,	Oakland,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.
March 19,	Oakland,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.00.
March 19,	Oakland,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
April 21,	Oakland,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Township presented no bill.
April 21,	Oakland,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 27,	Oakland,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 3,	Oakland,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$5.80.
<i>Burlington County—</i>				
Dec. 21, 1912, ..	Bass River,	Smith Cramer,	Caused fire by careless smoking,	Dropped, insufficient evidence.
March 24,	Pemberton,	Hanover Farms Co.,	Sparks from sawmill caused fire,	Pending.
May 3,	Pemberton,	Pennsylvania R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
June 29,	Pemberton,	Isaiah Haines,	Allowed brush fire to escape,	Paid fine, \$10.00.
July 22,	Pemberton,	Pennsylvania R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
April 8,	Shamong,	New Jersey Central R. R., ..	Fire set by locomotive,	Pending, claim submitted.
May 11,	Shamong,	New Jersey Central R. R., ..	Fire set by locomotive,	Pending, claim submitted.

REPORT OF THE FOREST COMMISSION.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1913—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
	<i>Burlington Co.—Cont'd.</i>			
July 19,	Shamong,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 21,	Shamong,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 22,	Shamong,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 23,	Shamong,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 25,	Shamong,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 19,	Tabernacle,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 12,	Tabernacle,	F. J. Miller,	Set fire by lighted match,	Dropped, township bill too tardy.
April 19,	Woodland,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.00.
May 13,	Woodland,	Enterprise White Clay Co.,	Set fire without permit,	Dropped, township bill too tardy.
June 17,	Woodland,	Wm. Taylor,	Set fire without permit,	Pending.
	<i>Camden County—</i>			
April 4,	Berlin,	Elias Tochtermann,	Set fire without permit and allowed it to escape,	Pending.
Feb. 16,	Clementon,	Willard Borton,	Set fire by careless smoking,	Released with warning.
March 25,	Clementon,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$12.75.
April 26,	Clementon,	R. V. Skellinger,	Allowed brush fire to escape,	Pending.
March 9,	Delaware,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
March	Delaware,	Jesse Anderson,	Set fire without permit,	Paid fine, \$10.00.
March	Delaware,	Henry Chew,	Set fire without permit,	Paid fine, \$10.00.
April	Delaware,	Philip Stockum,	Set fire without permit,	Paid fine, \$10.00.
April	Delaware,	Jacob L. Anderson,	Set fire without permit,	Paid fine, \$10.00.
April 1,	Gloucester,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 22,	Gloucester,	H. A. Delano,	Allowed brush fire to escape,	Released with warning.
April 27,	Gloucester,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
March 23,	Voorhees,	Alfred Birbeck,	Set fire without permit,	Paid fine, \$5.00.
June 16,	Waterford,	Michael Kedris,	Allowed brush fire to escape,	Paid firewarden's bill, \$8.25.
Jan. 31,	Winslow,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
Feb. 1,	Winslow,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.

FIREWARDEN'S REPORT.

65

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1913—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
	<i>Camden Co.—Cont'd.</i>			
Feb. 18,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$1.50.
March 2,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$1.50.
March 12,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$1.65.
March 17,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.65.
March 18,	Winslow,	Joe Viole,	Allowed brush fire to escape, ..	Released, secured withdrawal of bill from fire fighters.
March 21,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$7.00.
March 25,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$4.00.
March 25,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$23.00.
March 25,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$0.25.
March 25,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$15.50.
March 25,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.25.
March 25,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$0.25.
March 25,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$5.50.
March 25,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$6.75.
March 25,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$10.00.
March 28,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$5.00.
April 9,	Winslow,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 9,	Winslow,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 26,	Winslow,	Harold J. Brimfield,	Allowed brush fire to escape, ..	Released with warning.
April 26,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 8,	Winslow,	Toseph Denardo,	Set fire without permit,	Released with warning.
May 15,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 20,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
June 12,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
June 16,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 30,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
Aug. 2,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
Aug. 4,	Winslow,	Ralph Caputo,	Set fire without permit,	Pending.
Oct. 18,	Winslow,	N. Salozza,	Set fire without permit,	Pending.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1913—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
	<i>Cape May County—</i>			
March 5,	Dennis,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$4.25.
March 19,	Dennis,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$5.00.
March 29,	Dennis,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.75.
April 1,	Dennis,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$27.05.
April 1,	Dennis,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$13.55.
April 20,	Dennis,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
Feb. 10,	Lower,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
Feb. 18,	Lower,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
March 28,	Lower,	Atlantic City R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
March 28,	Lower,	Atlantic City R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
April 1,	Lower,	Atlantic City R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
April 1,	Lower,	Atlantic City R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
April 2,	Lower,	Atlantic City R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
April 2,	Lower,	Atlantic City R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
April 7,	Lower,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.00.
April 7,	Lower,	Atlantic City R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
April 7,	Lower,	Atlantic City R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
April 8,	Lower,	Lewis Pierson,	Set fire without permit,	Paid fine, \$25.00.
April 19,	Lower,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.00.
Dec. 31, 1912	Middle,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
Jan. 3,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$5.00.
Feb. 25,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.00.
March 2,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.00.
March 3,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$9.00.
March 7,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$6.00.
March 12,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.00.
March 19,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$7.00.
March 22,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.00.
March 23,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$8.00.

FIREWARDEN'S REPORT.

67

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1913—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
March 29,	<i>Cape May Co.—Cont'd.</i>			
March 30,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.00.
March 30,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$6.00.
March 30,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
March 30,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
April 1,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$5.00.
April 1,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$15.75.
April 1,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$9.00.
April 1,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$10.20.
April 2,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$4.00.
April 20,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.00.
May 2,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 4,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 8,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 10,	Middle,	Richard Baird,	Set fire without permit and allowed it to escape,	Pending.
May 11,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 12,	Middle,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
June 14,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
June 18,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
March 22,	Upper,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$4.00.
April 1,	Upper,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 8,	Upper,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.00.
April 8,	Upper,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.00.
April 9,	Upper,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$5.00.
April 19,	Upper,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$9.00.
May 9,	Upper,	Atlantic City R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
May 11,	Upper,	Atlantic City R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
March 12,	Woodbine,	A. Peretzman,	Set fire without permit,	Pending.
March 12,	Woodbine,	Joe May,	Set fire without permit,	Pending.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1913—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
<i>Cumberland County—</i>				
April 4,	Deerfield,	Benjamin Rassas,	Set fire without permit,	Released with warning.
April 9,	Downe,	Charles Gaskill,	Allowed brush fire to escape,	Paid firewarden's bill, \$7.00.
May 15,	Downe,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
June 16,	Fairfield,	Harry Hubbard,	Allowed brush fire to escape,	Released with warning.
July 16,	Landis,	C. W. Skinner,	Set fire without permit,	Paid firewarden's bill, \$5.00.
April 26,	Lawrence,	H. O. Newcomb,	Set fire without permit,	Paid fine, \$25.00.
May 16,	Lawrence,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 24,	Maurice River,	E. B. Sumner,	Set fire without permit and allowed it to escape,	Paid fine, \$5.00.
Jan. 20,	Millville,	Jas. F. Ledbetter,	Set fire without permit,	Paid fine, \$10.00.
March 28,	Millville,	Bertram Haines, Edward Hogan and Russell Hogan,	Set fire without permit and allowed it to escape,	Released with warning.
<i>Gloucester County—</i>				
April 22,	Monroe,	John Warrick,	Allowed brush fire to escape,	Pending, fled jurisdiction.
May 3,	Monroe,	Mrs. Jos. Slobogian,	Set fire without permit and allowed it to escape,	Pending.
May 3,	Monroe,	James Green and E. A. Garwood,	Set fire without permit and allowed it to escape,	Pending.
May 3,	Monroe,	Atlantic City F. R.,	Fire set by locomotive,	Paid firewarden's bill, \$18.00.
May 8,	Monroe,	Sam Lavishi,	Set fire without permit,	Paid fine, \$1.00.
May 20,	Monroe,	Atlantic City R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
<i>Middlesex County—</i>				
March 3,	East Brunswick,	Mrs. Ernest Klopman,	Set fire without permit,	Pending, fled jurisdiction.
March 5,	East Brunswick,	Henry Rapt,	Set fire without permit,	Paid fine, \$5.00.
April 10,	East Brunswick,	John Jeski,	Set fire without permit and allowed it to escape,	Paid fine, \$5.00.
April 25,	East Brunswick,	Bernard Axel,	Set fire without permit,	Dropped, insufficient evidence.
May 2,	East Brunswick,	William Liebnitzky,	Set illegal backfire,	Warned and released.

FIREWARDEN'S REPORT.

69

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1913—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
	<i>Middlesex Co.—Cont'd.</i>			
May 2,	East Brunswick,	John Hoffman,	Set illegal backfire,	Warned and released.
May 3,	East Brunswick,	Charles Hardenberg,	Set fire without permit,	Pending.
May 3,	East Brunswick,	John Hoffman,	Set fire without permit,	Paid fine, \$5.00.
June 29,	East Brunswick,	Harry Swiller,	Set fire without permit and allowed it to escape,	Pending.
May 2,	Sayreville,	Britan River R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$7.00.
April 24,	South Brunswick,	R. D. Petty,	Allowed brush fire to escape, ..	Paid firewarden's bill, \$5.00.
	<i>Monmouth County—</i>			
Nov. 4, 1912 ..	Howell,	Edwin Schibla,	Set fire without permit,	Paid fine, \$10.00.
Nov. 17, 1912 ..	Howell,	New Jersey Central R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
Nov. 17, 1912 ..	Howell,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$7.35.
Dec. 9, 1912 ..	Howell,	Lewis Guarino,	Set fire without permit,	Paid firewarden's bill, \$2.20.
Dec. 15, 1912 ..	Howell,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
Feb. 15,	Howell,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
Feb. 17,	Howell,	Unknown tramp,	Campfire caused fire,	Offender arrested and jailed.
May 2,	Howell,	George D. Megill,	Set fire without permit,	Paid fine, \$25.00.
May 10,	Howell,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
	<i>Morris County—</i>			
Oct. 14,	Boonton,	C. B. Dixon,	Set fire without permit,	Dropped, insufficient evidence.
April 3,	Hanover,	D. L. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 4,	Hanover,	D. L. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 24,	Hanover,	D. L. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.
Aug. 26,	Jefferson,	F. L. Winterbottom,	Set fire without permit,	Released with warning.
April 30,	Mt. Olive,	D. L. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 1,	Pequannock,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 8,	Pequannock,	Paul Mehalic,	Dropped fire along road,	Dropped, insufficient evidence.
April 8,	Pequannock,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 23,	Pequannock,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 10,	Pequannock,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.

REPORT OF THE FOREST COMMISSION.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1913—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
	<i>Morris Co.—Cont'd.</i>			
May 10,	Pequanock,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 29,	Rockaway,	Franklin Hill,	Set fire without permit,	Paid fine, \$10.00.
June 3,	Rockaway,	H. Y. Coffee,	Set fire without permit,	Released with warning.
Dec. 15, 1912,	Roxbury,	D. L. & W. R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
Dec. 16, 1912,	Roxbury,	George Headley,	Set fire without permit,	Pending, fled jurisdiction.
May 7,	Roxbury,	D. L. & W. R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
	<i>Ocean County—</i>			
April 3,	Berkeley,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
Aug. 25,	Berkeley,	Albert S. Tilton,	Set fire without permit,	Paid fine, \$5.00.
March	Brick,	V Frank Gable,	Set fire without permit,	Paid firewarden's bill, \$10.00.
June 2,	Eagleswood,	Tuckerton R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 9,	Eagleswood,	Fritz Neuendorf,	Berry picker caused fire,	Dropped, insufficient evidence.
July 22,	Eagleswood,	Tuckerton R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 23,	Eagleswood,	Tuckerton R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$4.00.
July 24,	Eagleswood,	Tuckerton R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$5.00.
Nov. 12, 1912,	Lacey,	New Jersey Central R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
April 30,	Lacey,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 2,	Lacey,	Melvin Worth, Leon Worth and Paul Ditton,	Small boys set fire,	Released with warning.
May 10,	Lacey,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
June 11,	Lacey,	Cedar Crest Clay Mines Co.,	Narrow gauge locomotive caused fire,	Pending, claim submitted.
June 15,	Lacey,	Tuckerton R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$15.30.
Dec. 12, 1912,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$25.60.
March 6,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.00.
April 24,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 2,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 3,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 6,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.

FIREWARDEN'S REPORT.

71

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1913—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
May 7,	<i>Ocean Co.—Cont'd.</i>			
May 10,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 29,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 8,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 9,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 12,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 18,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 19,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 19,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 21,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 22,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 22,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 23,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 24,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 26,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
Aug. 17,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
Aug. 22,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
Sept. 28,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
Oct. 14,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 9,	Ocean,	J. W. Horner,	Allowed brush fire to escape,	Dropped, township bill too tardy.
May 10,	Ocean,	New Jersey Central R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
April	Plumstead,	Frank Bills,	Set fire without permit,	Paid fine, \$10.00.
May 20,	Stafford,	Thomas Rahilly,	Set fire without permit,	Paid firewarden's bill, \$5.00.
April 26,	Stafford,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 3,	Stafford,	Tuckerton R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$24.00.
May 3,	Stafford,	Tuckerton R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 5,	<i>Passaic County—</i>			
	Pompton,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.

REPORT OF THE FOREST COMMISSION.

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1913—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
<i>Passaic Co.—Cont'd.</i>				
April 25,	Pompton,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Dropped, township bill too tardy.
May 3,	Pompton,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Dropped, township bill too tardy.
Nov. 5, 1912 ..	West Milford,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Paid firewarden's bill, \$44.65.
Dec. 7, 1912 ..	West Milford,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Paid firewarden's bill, \$9.00.
Dec. 10, 1912 ..	West Milford,	John Meyer,	Set fire to smoke out squirrels, ..	Pending.
Dec. 13, 1912 ..	West Milford,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Paid firewarden's bill, \$5.00.
March 7,	West Milford,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
March 22,	West Milford,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
April 1,	West Milford,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Paid firewarden's bill, \$12.00.
April 3,	West Milford,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
April 6,	West Milford,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Dropped, township bill too tardy.
April 19,	West Milford,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Dropped, township bill too tardy.
<i>Somerset County—</i>				
July 7,	Bernard,	D. L. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 13,	Bridgewater,	Bound Brook Water Co.,	Set fire without permit,	Paid firewarden's bill, \$3.00.
May 10,	North Plainfield,	Union Co. Investment Co.,	Steam roller caused fire,	Paid firewarden's bill, \$8.50.
<i>Sussex County—</i>				
March 8,	Byram,	D. L. & W. R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$4.50.
April 21,	Byram,	Lehigh & Hudson R. R.,	Fire set by locomotive,	Pending, claim submitted.
June 10,	Byram,	Richard Groves,	Set fire without permit and allowed it to escape,	Pending.
May 3,	Frankford,	John Henry,	Set fire without permit and allowed it to escape,	Pending.
Nov. 30, 1912 ..	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Released with warning.
Dec. 14, 1912 ..	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Paid firewarden's bill, \$2.25.
Dec. 14, 1912 ..	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Paid firewarden's bill, \$4.00.
Dec. 15, 1912 ..	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Paid firewarden's bill, \$6.00.
March 9,	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Paid firewarden's bill, \$13.65.
March 9,	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
March 9,	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
March 9,	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.

FIREWARDEN'S REPORT.

73

TABLE X.—VIOLATIONS OF THE FOREST FIRE LAW, 1913—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
<i>Susser Co.—Cont'd.</i>				
March 9,	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
March 10,	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
March 21,	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
March 22,	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
March 29,	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
March 29,	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
April 2,	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
April 9,	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
April 10,	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
April 20,	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
April 21,	Hardyston,	Albert Treloar,	Set fire while hunting flowers, ...	Pending.
May 20,	Hardyston,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
April 4,	Hopatcong,	Andrew Yellow,	Fire set by carelessness smoking, ...	Pending, prosecution ordered.
April 5,	Hopatcong,	George Reule,	Set fire without permit,	Released with warning.
April 5,	Hopatcong,	Hudson Maxim,	Set fire without permit,	Released with warning.
April 5,	Hopatcong,	H. C. Condit,	Set fire without permit,	Released with warning.
April 2,	Sparta,	New Jersey Central R. R., ...	Fire set by locomotive,	Pending, claim submitted.
April 21,	Sparta,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Paid firewarden's bill, \$11.00.
April 21,	Sparta,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Paid firewarden's bill, \$8.00.
June 23,	Wallpack,	Salmon Bell,	Set fire without permit,	Paid fine, \$10.00.
<i>Warren County—</i>				
Dec. 16, 1912,	Knowlton,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Paid firewarden's bill, \$2.00.
April 8,	Knowlton,	D. L. & W. R. R., ...	Fire set by locomotive,	Paid firewarden's bill, \$8.00.
April 25,	Knowlton,	Lehigh & New Eng. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
April 25,	Knowlton,	Lehigh & New Eng. R. R., ...	Fire set by locomotive,	Pending, claim submitted.
May 9,	Knowlton,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Paid firewarden's bill, \$1.00.
May 10,	Pahaquarry,	N. Y. S. & W. R. R., ...	Fire set by locomotive,	Paid firewarden's bill, \$4.00.
May 20,	Pahaquarry,	George M. Dennis, Lor- enzo Metesger and Aus- tin Strunk,	Dropped fire along road,	Dropped, insufficient evidence.

TABLE XI.—ACTION IN 1913 ON VIOLATIONS OF THE FOREST FIRE LAW, 1912.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
	<i>Atlantic County—</i>			
July 2,	Buena Vista,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 6,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.00.
July 6,	Buena Vista,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 9,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$4.20.
Aug. 3,	Buena Vista,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.00.
May 17,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 18,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 21,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 26,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 27,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 28,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 29,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
June 4,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
June 12,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.00.
June 23,	Galloway,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$25.20.
June 30,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 4,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 10,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 11,	Galloway,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 20,	Hammononton,	Charles Losse,	Set fire without permit and allowed it to escape,	Paid firewarden's bill, \$2.00.
Sept. 11,	Hammononton,	Atlantic City R. R.,	Fire set by locomotive,	Pending, fled jurisdiction.
May 27,	Hammononton,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.00.
May 31,	Hammononton,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$5.00.
June 26,	Hammononton,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$4.00.
July 4,	Hammononton,	Patriotic Order Sons of America,	Caused fire by fireworks at celebration,	Paid firewarden's bill, \$3.00.
July 13,	Hammononton,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$6.00.
April 7,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.00.
			Fire set by locomotive,	Pending, claim submitted.

FIREWARDEN'S REPORT.

75

TABLE XI.—ACTION IN 1913 ON VIOLATIONS OF THE FOREST FIRE LAW, 1912—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
April 7,	<i>Atlantic Co.—Cont'd.</i>			
April 9,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 9,	Mullica,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$9.60.
April 9,	Mullica,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$5.35.
April 9,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 9,	Mullica,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.25.
April 11,	Mullica,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$8.70.
April 11,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 24,	Mullica,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$1.40.
April 24,	Mullica,	Atlantic City R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
April 24,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 24,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 24,	Mullica,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$13.30.
April 24,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$8.60.
May 3,	Mullica,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 17,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
May 25,	Mullica,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 28,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$4.00.
May 28,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
June 9,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
June 21,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
June 22,	Mullica,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$6.68.
June 23,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
June 30,	Mullica,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$6.00.
July 8,	Mullica,	John Weber,	Fire set by locomotive,	Paid firewarden's bill, \$6.00.
July 10,	Mullica,	Maliciously set fire,	Maliciously set fire,	Prosecuted, released on appeal.
Aug. 10,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 21,	Weymouth,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
June 13,	Weymouth,	Anderson Bourgeois,	Allowed brush fire to escape,	Pending, claim submitted.
June 13,	Weymouth,	Atlantic City R. R.,	Fire set by locomotive,	Pending, claim submitted.

REPORT OF THE FOREST COMMISSION.

TABLE XI.—ACTION IN 1913 ON VIOLATIONS OF THE FOREST FIRE LAW, 1912—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
June 29,	<i>Atlantic Co.—Cont'd.</i>			
July 4,	Weymouth,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$4.30.
July 24,	<i>Bergen County—</i>			
July 26,	Oakland Borough,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
July 26,	Oakland Borough,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
July 26,	Oakland Borough,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 26,	Oakland Borough,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
July 26,	Oakland Borough,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
June 10,	<i>Burlington County—</i>			
May 4,	Shamong,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$18.95.
June 23,	Southampton,	Chas. McCloskey,	Burned brush without permit and allowed fire to escape,	Pending, on appeal.
May 4,	Tabernacle,	New Jersey Central R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
May 4,	Woodland,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.00.
April 23,	<i>Camden County—</i>			
April 24,	Waterford,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
March 18,	Winslow,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 23,	Winslow,	New Jersey Central R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
April 23,	Winslow,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 23,	Winslow,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 3,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.25.
May 11,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.75.
May 11,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$0.50.
May 11,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$5.00.
May 27,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$1.00.
May 28,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.50.
May 31,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$1.00.
June 2,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.25.
June 3,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$4.25.
June 13,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$1.40.

FIREWARDEN'S REPORT.

77

TABLE XI.—ACTION IN 1913 ON VIOLATIONS OF THE FOREST FIRE LAW, 1912—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
	<i>Canden Co.—Cont'd.</i>			
July 1,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$7.00.
July 7,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$9.00.
July 8,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.80.
July 8,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$9.00.
July 9,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$1.25.
July 9,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$5.70.
July 9,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
July 9,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$4.70.
July 10,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$9.00.
July 10,	Winslow,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.00.
	<i>Cape May County—</i>			
April 23,	Dennis,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
July 7,	Dennis,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$9.25.
April 23,	Middle,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 23,	Middle,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 4,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$15.20.
Aug. 5,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.00.
Sept. 11,	Middle,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$4.00.
June 13,	Upper,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$5.00.
June 23,	Upper,	Atlantic City R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$6.00.
	<i>Cumberland County—</i>			
June 7,	Commercial,	New Jersey Central R. R.,	Section men carelessly burning ties,	Paid firewarden's bill, \$5.00.
Aug. 30,	Deerfield,	Marigo Manno,	Allowed brush fire to escape,	Paid fine, \$5.00.
Sept. 10,	Fairfield,	W. E. Shoemaker,	Allowed brush fire to escape,	Paid firewarden's bill, \$15.00.
April 18,	Millville,	Charles Garrison,	Allowed brush fire to escape,	Paid firewarden's bill, \$10.00.
	<i>Gloucester County—</i>			
May 31,	Franklin,	Pennsylvania R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
July 9,	Monroe,	Atlantic City R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.

TABLE XI.—ACTION IN 1913 ON VIOLATIONS OF THE FOREST FIRE LAW, 1912—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
	<i>Monmouth County—</i>			
Aug. 25,	Atlantic,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$3.00.
April 6,	Howell,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$4.00.
May 3,	Howell,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$9.00.
May 4,	Howell,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$8.75.
June 11,	Howell,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$17.00.
Aug. 15,	Howell,	N. Heiselberg,	Set fire without permit and allowed it to escape,	Paid firewarden's bill, \$3.00.
Oct. 21,	Howell,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$13.80.
	<i>Morris County—</i>			
April 7,	Roxbury,	D. L. & W. R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$4.80.
April 20,	Roxbury,	D. L. & W. R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$1.60.
	<i>Ocean County—</i>			
April 24,	Berkeley,	Peter Y. Veeder,	Allowed brush fire to escape, ..	Convicted, appeal pending.
May 27,	Lakewood,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$5.00.
April 7,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$1.25.
April 28,	Manchester,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 4,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.25.
May 4,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$12.80.
May 5,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.00.
May 22,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$35.00.
June 13,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.00.
July 7,	Manchester,	New Jersey Central R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$9.00.
	<i>Passaic County—</i>			
July 11,	Pompton,	Erie R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$2.00.
Oct. 30,	West Milford,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$6.25.
	<i>Sussex County—</i>			
April 9,	Byram,	D. L. & W. R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
July 5,	Byram,	D. L. & W. R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
July 6,	Hardyston,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.

TABLE XI.—ACTION IN 1913 ON VIOLATIONS OF THE FOREST FIRE LAW, 1912—Continued.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
	<i>Sussex Co.—Cont'd.</i>			
Aug. 6,	Hardyston,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.
Oct. 17,	Hardyston,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$7.00.
	<i>Warren County—</i>			
April 9,	Knowlton,	D. L. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 11,	Knowlton,	D. L. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.
June 27,	Knowlton,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Pending, claim submitted.

TABLE XII.—ACTION IN 1913 ON VIOLATIONS OF THE FOREST FIRE LAW, 1911.

DATE.	COUNTY AND TOWNSHIP.	OFFENDER.	OFFENSE.	SETTLEMENT.
<i>Atlantic County—</i>				
April 27,	Buena Vista,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 23,	Egg Harbor,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 2,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 12,	Galloway,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 25,	Hamilton,	Vincenzo Giocolne,	Set fire without permit and allowed it to escape,	Pending, fled jurisdiction.
July 24,	Hammonton,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
April 29,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
May 15,	Mullica,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
May 14,	Weymouth,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
<i>Camden County—</i>				
May 18,	Chesilhurst,	Harry Louden,	Set fire without permit,	Pending, fled jurisdiction.
May 3,	Clementon,	James M. Cooper,	Allowed brush fire to escape, ..	Pending, fled jurisdiction.
May 14,	Winslow,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
<i>Cumberland County—</i>				
May 25,	Maurice River,	Pennsylvania R. R.,	Fire set by locomotive,	Pending, claim submitted.
<i>Middlesex County—</i>				
May 4,	East Brunswick,	Robert Huebner,	Allowed brush fire to escape, ..	Prosecuted and convicted.
May 7,	Roxbury,	D. L. & W. R. R.,	Fire set by locomotive,	Paid firewarden's bill, \$23.34.
<i>Morris County—</i>				
May 5,	Byram,	Dana Padgett,	Careless with matches,	Convicted, fled jurisdiction.
April 7,	Hardyston,	N. Y. S. & W. R. R.,	Fire set by locomotive,	Dropped, township bill too tardy.
May 6,	Vernon,	Thomas Mann,	Set fire without permit and allowed it to escape,	Prosecuted, convicted and fined \$50 and costs.

B.

C.

D.

E.

F.

G.

H.Digitized by Google

I.	PAGE.	R.	PAGE.
Insects,	35, 37, 38	Railroad Fire Lines,	60
L.		Railroad Fire Line Law,	7
Lakes, Appropriations for,	11	Railroad Fires,	7, 8, 12, 46
Land Schemes,	10, 18	Reserves, (see Forest Reserves).	
Legislation,	11	Use of by State Dependents,	25
Leopard Moth,	38	Road Commissioner, State, Co-	
Linden,	34	operation with,	34
Locust,	27	Roadside Trees,	34
Locust Borer,	27	Road Surfacing, Injury by,	35
Lookouts,	8, 9, 59	Roads, Tarred and Oiled,	35
Lumber Directory,	40	S.	
M.		Scale, Elm,	35
Maple Blight,	39	Maple,	35
Maple, Cottony Scale,	35	Tulip,	35
Maple, Norway,	34	Shade Trees,	5, 10, 12, 17, 27-33
Maple, Sugar,	34	Shade Tree Book,	35
Mine Mount Forestry Association	19	Shade Tree Commissions,	10, 17, 28-33
Mount Laurel Reserve,	23, 24	Shelter Cabins,	26
N.		Smokers' Fires,	7, 8, 48
Newark Street and Water Com-		Sportsmen's Fires,	7, 48
missioners, Co-operation with, ..	59	Starvation, Tree,	39
Norway Maple,	34	State Aid in Forestry,	42
Norway Maple Blight,	39	State Institutions, Co-operation	
O.		with,	10, 25
Oak, Chestnut Blight,	37	Sugar Maple,	34
Oak, Red,	27, 34	Survey of Reserves,	26
Oak, Scarlet,	34	Sycamore,	34
Office Room,	12	T.	
Organization,	13	Telephones,	24
P.		Town Sites,	10
Parks,	27	Tree Cutting, Unlawful,	20, 21
Patrols,	8, 59	Tree Diseases, (see Diseases).	
Penalties,	8, 56	Tree Doctors,	40
Permits, Brush Burning,	7, 46	Tree Enemies, (see Enemies).	
Pests, Tree, (see Tree Pests and		Tree Food,	40
Tree Enemies).		Tree Pests,	35-40
Plantations, Forest,	26, 27	Trespass on Reserves,	25
Planting, (see Forest Planting).		Tulip Poplar,	34
Planting, Close,	34	Tulip Soft Scale,	35
Plant Pathologist, State,	35, 40	Tussock Moth,	38
Playgrounds,	9	V.	
Population, Density of,	9, 16	Violations of Law,	8, 55-80
Private Forestry,	9, 19	W.	
Products of Reserves,	25	Weeks Law,	8, 59
Prosecutions,	56	Wharton Tract,	23
Protection, Forest,	5	White Pine Blister Rust,	39
Publicity,	41, 60	Wood Industries,	11, 40
Public Roads,	72	Wood Users,	11
		Wirttemberg, Comparison with, ..	6

Forest park reservation
commission.
Annual report.

SD12
N5
1912/13

SD12.
N5

338637

1912/13 New Jersey.

AUG 29 1918

UNIVERSITY OF CALIFORNIA LIBRARY

